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MEDICAL AND PHYSICAL
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EDITED BY
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PROFESSOR OF OBSTETRICS AND THE DISEASES OF WOMEN AND CHILDREN
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VOL. III.] JANUARY, FEBRUARY, AND MARCH. [No. I.

ART. I. OBSERVATIONS *on* ENDEMIC FEVER: *delivered as the Annual Address before the Medical Society of the State of New-York, at the Capitol, in the city of Albany, on the 3d of February*, 1824. By ALEXANDER COVENTRY, M. D. President of the Society.

GENTLEMEN OF THE SOCIETY,

HOWEVER incompetent I may feel myself to perform the duties attached to the office I now fill, I should esteem it as savouring of ingratitude, were I not to make an effort. Rather unexpectedly to me, being placed here, I must, in the first place, be permitted to express the grateful and sincere sentiments with which I duly appreciate this proof of your consideration. Having been located for many years of my life, at a distance from those sources of information which are to be found only in cities, nothing but a full confidence, that your kind indulgence will make due allowances for the disadvantages I labour under, has enabled me on the present occasion, to make a feeble attempt to perform part of the duties attached to the Presidential Office. The subject to which I would solicit your attention, is Endemic Fever; and instead of endeavouring to recapitulate the opinions of others, either ancient or modern, I shall chiefly confine my remarks to my personal observations, and submit to you the inference drawn from many years' experience.

I use the term Endemic, rather in contradistinction to Epidemic, than as fully indicating the meaning wished to be conveyed; for I would be understood as speaking of fever originating from a local cause, rather than of a disease indigenous to a district or people; for as I hope hereafter to show, this fever has been prevalent in some countries at one period, and entirely banished at others. I find it impossible to assign it a place in any nosology with which I am acquainted, for I have seen it assume all the forms described under the term Pyrexia; nay, in the same individual it often commences with most violent arterial action, yet ends in the most marked state of nervous debility. Hippocrates, many centuries ago, as I believe, described this disease under the appellation of Causus. Endemic Fever infested Rome for the first three centuries after its foundation. It was banished for a long period, while the mistress of the world paid strict attention to her internal police, but reappeared in her decline, when the proud city became a prey to barbarians and despots, and the *salus populi* was no longer the *suprema lex*. At present, during the summer and autumn nearly one half of Rome is uninhabitable, and there is reason to fear, that ere long she may become what Babylon now is, the abode of wild beasts. Endemic Fever is found to prevail along the coast of the Mediterranean, from its inlet to its outlet, from Constantinople to Gibraltar: it is the Jungle Fever of Hindostan; the Mal de Siam, further East; the destructive fever of Batavia; what has caused both coasts of Africa to be so destructive to the white man; and makes the West Indies the grave of the flower of the European youth. It has already laid our country in tears for the loss of young men who bade fair to rival in fame those naval heroes, who have raised a halo of glory around their country, not more by their splendid victories, than by their humanity to the conquered.

To Endemic Fever are we indebted for the annual visits of our southern brethren, who fly from the bad air of their swamps, to inhale the pure breeze of our mountains, to admire our stupendous works of art and nature, to bathe on our airy strands, or drink at our hygiean fountains. It was this fell destroyer, that proved more destructive to your ancestors, and was more dreaded than the yell of the savage, or the rigours of the climate; nor am I sure that it was not Endemic disease that for ages kept down the population of the New World, and preserved this portion of it as an asylum for the oppressed and afflicted of another, if not a better race of men.

I know, for I have frequently witnessed the fact, that Endemic Fever is more disheartening to the pioneer, than the heaviest forest, or all the deprivations and hardships incident to a new settlement. Even last summer, a gentleman, passing through Indiana and Ohio, met with pale faces at almost every door, or heard the moan of sickness from nearly every cabin. If I am not much mistaken, it is the same disease that at times makes our cities desolate, and allows the grass to grow in our most frequented streets; nay, after years of reflection on the subject, my conviction is, that the plagues which formerly appeared at various periods in London, in Holland, at Marseilles, and Moscow, had their origin from local causes: they were all disorders of the season, and disappeared on the approach of the winter. Why at Constantinople does the plague prevail chiefly in the autumnal months? Why is it checked by the first severe frost, and almost annihilated during the winter, notwithstanding the filthiness of the inhabitants? Constantinople is at the mouth of the *Black Sea*, and is surrounded or bounded on three sides by extensive marshes. Why is the plague annually swept from Egypt, when her surface is scoured by the overflowing of the Nile? If the axiom be true, that the same causes, under similar circumstances, must produce the same effects, then all these diseases are derived from the same stock, and are brethren of the same family. Had I remained in the country of my birth and education, nay, had my location continued on the well cultivated banks of the North River, I should have probably to this day, adhered to the doctrines I imbibed from the venerable Cullen, and pursued the plan of practice taught by the admirable Gregory ; but it was my destiny to pass another ordeal, to verify the observation, "that one half of life is spent in unlearning what was taught us in the other half." I soon found that nosological arrangements, however applicable in the mild climate of Europe, in the healthy countries of England and France, availed but little among the swamps and marshes of the New World; for there I often found fever, assuming such protean features, such varying appearances, that before the ink was dry, with which you had placed it in class and order, a new symptom would arise, calling on you to alter its nomenclature. More than once I have witnessed disease approach under the disguise of an intermittent, yet, before sunset of the third day, hurry the patient to his silent abode. Often have I seen it commence with decided marks of malignancy, yet terminate in a mild tertian. If in availing myself of the opportunity which your kindness has this day afforded me, of laying before this respectable Society my opinion on certain forms of fever, I should differ from some of my professional brethren, I must be permitted to state, that unaccustomed *jurare in verba magistri*, I have no school tenets, no favourite hypotheses to support, claim no discovery, nor reckon on the novelty of my opinions, nothing doubting but the same conclusions have been drawn from similar premises, and probably long before the present time. I will, however, submit to you my reasons, derived from facts, collected during the last thirty years ; in some periods of which I had ample opportunities of observing Endemic Fever under all its various phases. Supposing the observation to be correct, that nine-tenths of those who die from disease, fall victims to fever, and if, of all fevers, that alluded to is the most wide in its range, the most fatal in its result, there can be no subject of more importance to mankind, or more worthy of our attention, than an investigation into the cause, origin, and prevention of this form of malady. I will briefly state, when and where I first became acquainted with this species of fever, previous to which I had but an incorrect idea of its nature.

In the month of June 1792, I arrived with my family at my land, near the outlet of the Seneca Lake, in what was then called the Military Tract, and sometimes the Genesee country. The accurate description of that district by Dr. Ludlow, published in No. 5 of the New-York Medical and Physical Journal, will supersede the necessity of dwelling on its topographical features. To those who have not seen the description alluded to, I would mention, that a glance at the map of the state will discover in the Western District, a number of small lakes, whose longest range is north and south, and their combined outlets form the Seneca and Oswego rivers, the latter of which enters Lake Ontario. The tract called the Genesee, or Lake country, may be said to extend from the foot of the Allegany spurs or dividing ridge, to the shores of Lake Ontario, and may be said to be a gently inclined plane, facing the north, with some slight elevation on its surface. The levelness of the country may be estimated, from its moderate elevation above the water, the sluggish movement of the streams that discharge into the Lakes, by the few rapids on the Seneca river, the immense marshes on that stream, said to contain many thousand acres, and by the route of the Erie Canal, which might have carried on the same level from Utica to Lockport, above 200 miles. This tract lies between latitude 42 and 43.50, about 80 miles in width from north to south, and 200 miles from east to west. The centre of this tract is about 350 miles from the sea, and about 400 feet elevation above tide water, where the canal passes. It abounds with marshes at the head, while along the outlet of most of the lakes, there are swampy lands; wherever a bay extends inland from the large lake, you find low lands. When I first became acquainted with the Genesee country, it was a forest, the surface covered with lofty deciduous trees; the snow fell generally in November and December, and disappeared about the first of April. The thermometer would sometimes fall from 10 to 16 degrees below zero, and in summer rise as high as 95 in the shade. The summers were rather dry, and the rains came with thunder, and fell in heavy showers. On the 1st July 1792, I left my family in good health. On my return about the 17th of the month, of fourteen inmates, I found thirteen in bed with fever, and in the course of a few days, the other was likewise attacked. On the 15th of September, I was attacked with a chill, succeeded with a severe pain in the back, and violent headach, to the latter of which I never had been subject. This was accompanied with a species of delirium, attended with phantasms continually passing before my eyes. A violent fever succeeded, with hot skin, parched tongue, and constant nausea. On the third day, taking a powerful emetic of six grains of tartarized antimony, I vomited nearly two quarts of bile; my skin became moist, and the headach abated. On the fifth day, every symptom was much ameliorated, and the danger seemed past; yet it was five weeks before I could sustain my own weight to walk to the door. In each of the two succeeding seasons, I had an attack of fever, but milder at the commencement, and more easily managed; I attributed these attacks to the fatigues and exposures inseparable from the practice of medicine, in a new and thinly inhabited country where my visits sometimes extended from 20 to 40 miles; but a circumstance, for which I have not been able to account, was, that for many years after, even when I had quitted that section of the country, about the same season, I was seized with a fever of a single paroxysm, which invariably went off with a copious perspiration, of an uncommon and nauseous odour. In the year 1793, when about to commence my harvest, every man on the farm was seized with fever. I remember to have passed through Geneva, when there was not a sick person in the place; on my return within a few days, with the exception of a Miss Tallmadge, every individual in the village was confined to bed with fever. During the autumnal months, from the year 1792 to 1795 inclusive, the proportion of the sick to the well was, according to the population, much greater in the Genesee country, than in either of the large cities, even in those seasons when malignant fever was most prevalent. If in the country the fatal cases were fewer in number, this might arise from different modes of living, less use of animal food, or spiritous liquors, more regularity and cleanliness, a freer air, or even less virulence in the remote cause, which arises in the country principally from the decay of vegetable matter. The general type of fever inclined to be remittent when the attack was violent, and the issue fatal; its course was often finished on the evening of the third day, and sometimes without the appearance of reaction. The mortal cases seldom extended beyond the fifth or seventh day, while others less violent, would run on to the fourteenth, and sometimes longer. Those who survived were subject to relapses, especially on any excess in eating, which it was difficult to guard against, as the fever was generally followed by a ravenous appetite, which, however, seemed not to restore the system to its former tone, as many did not recover their strength till the approach of warm weather in the ensuing season. Almost every fatal case was attended with yellow, or rather orange-coloured skin; many had ejections from the stomach of brown or coffee-coloured matter; the ejections were often dark-coloured, sometimes of a pitchy appearance, and petechial spots on the skin were not uncommon. In the robust and middle-aged, if full feeders and hard drinkers, the disease had a rapid career and fatal result; few of the emigrants from Europe or the New-England states escaped; those from Pennsylvania and New-Jersey were less liable, while the settlers from Maryland, Virginia, Delaware, and further south, seemed to enjoy an immunity. Those who had the fever were much less liable to a second attack, except when a predisposition was induced by sudden exposure to cold after being heated, or from excessive fatigue. During the years mentioned, I can truly say, that few days occurred, from the middle or latter part of July to the setting in of the frost, about the middle or end of October, that did not afford me an opportunity of visiting a patient with Endemic Fever; indeed, during no small portion of that period, there was no necessity of leaving my domicile in quest of a case. Extensively engaged in agriculture, I generally had a number of men employed, few of whom escaped the tribute of a seasoning. I may almost say, that it was in my own house—in rearing a numerous family—in my own person, that I acquired what I esteem an approach near to a correct view of febrile action. For in hospitals, how often do we see a fever patient brought in, to draw his last breath, and to receive a charitable burial; in private practice, the lady of the house has generally exhausted her skill before the physician is called in, and he only sees the disorder in its secondary stage. How often have I with joy hailed the first symptom of arterial excitement, which never failed to resuscitate hope in the parental bosom!

Omitting for the present any remarks as to other fevers, we will now institute some inquiries, on what have generally been considered as the remote causes of the disease alluded to as Endemic Fever. Being prevalent within the tropics, it has been attributed to the effect of heat on the human body, but facts do not support this hypothesis. Glass-blowers, and those employed in other pursuits which subject them to great heat, are not more liable to fever than other men. Sir Charles Blagden ascertained that the body would support with impunity, a degree of heat much above that of boiling water. The Arab amid his burning sands, and the inhabitants on the scorching plains of Cumana, are strangers to Endemic Fever. In some of the Windward Islands, where there are neither woods or marshes, even the British soldier under a tropical sun, lives longer and enjoys better health, than in his native climate. The Circe frigate remained two years and six months in the West Indies without having a sick man on board. In our own fields do we not annually see, during hay time and harvest, men using violent exercise in a heat exceeding that of some tropical places, even when the rays of a meridian sun will raise the mercury in the thermometer to 120, yet no febrile action ensues? How often do we see some inhabitants of the same village, nay of the same house, become victims to fever, while others, exposed to the same temperature, escape. Others from frequently witnessing the fever in low and wet countries, have thought that it arose from excessive moisture, but this opinion is still less tenable than the former, for the Newfoundland fisherman, immersed for months in thick fogs, with his clothing continually soaked with water, is perhaps the most healthy and hardy of his species. Even in the climate of Grand Cairo, the water carriers, whose clothes and skins are constantly moist, are the most exempt from disease. In our own country, the Mohawk, Susquehannah, and St. Lawrence boatmen, who during the summer, are nearly half their time in the water, are not subject to fever. The generality of medical men have agreed in attributing the remote cause of the fever alluded to, to marsh miasmata ; but what this supposed agent is, no one has yet ascertained. It has hitherto escaped the cognizance of the senses, and eluded the tests of the chemist. Like the Typhon of the ancients, I suspect it is the offspring of the imagination. I am fully convinced from observation, that it is only under certain circumstances that marshes become more unhealthy than mountains. We have seen well marked Endemic Fever originate on shipboard a thousand miles distant from any marsh. Nor has time yet erased from my memory the days I spent among the mossy moors and peat-bogs of my native country, where neither pale face nor yellow eye was seen among the inhabitants. How many thousand acres of marsh have I seen not only on the Atlantic coast, but along the course of the Detroit, Niagara, and St. Lawrence, where the Endemic Fever was not to be found ! In the first instance, a flood tide swept the face of the marsh every twelve hours, in the latter, a steady and regular moisture was kept up by those noble rivers, of which it might with justice be said,

> "Though deep, yet clear, gentle, yet not dull,
> "Strong without rage, without o'erflowing, full."

A residence for some years on the edge of a marsh, from which I annually procured a considerable quantity of hay, afforded me an opportunity of observing the changes to which the insalubrity of marshes may be attributed. In some seasons the labourers would, with impunity, remain at work in the marsh for weeks, with the water as high as their ankles every day; at other times they would sicken in forty-eight hours, and I would be under the necessity of postponing my hay-making, till a severe rain or frost altered the condition of the marsh. If abundance of rain caused the water to overflow its usual bounds, and the flood continued long enough to drown the land plants on its borders, on the recession of the waters the process of vegetable putrefaction commenced on its margin. If the season proved unusually dry, the moisture was insufficient to support the aquatic plants; they perished and underwent the same process: thus the draining of marshes is unhealthy during the first season, from the decay of the aquatics that grow in them. In observing the phenomena of two ponds at the north end of the Seneca Lake, I learned how different seasons might affect the healthiness of a country. While these had a free communication at high water with the lake, no bad consequences resulted; but if the drought of the summer caused the surface of the lake to become low, one of these would drain off, the water plants perish, probably with the insects on them, and a most horrible stench was emitted. This commonly would last about a fortnight, when the whole surface would be covered with a crop of land plants, and the smell would cease: a heavy rain by filling the pond, would at times prevent this, at other times a shower would prolong the process. The other pond, whose bottom was deeper, and which was never entirely drained, would be considerably later in affecting the air. Thus, we may easily conceive why one season is more unhealthy than another; why a violent storm and heavy rain may at one time put an end to a raging pestilence, as it did at Naples in the time of Prosper Alpinus, and as it did, I believe, at Natchez last season. It washes the surface, and operates like the inundations that Sir John Pringle said were practised in Belgium, and something similar to the overflowing of the Nile. Yet the same may be the precursor and cause of disease, as it is on the coast of Africa, which becomes sickly when the rains set in.

During my residence in the lake country, I frequently remarked the effects of rains: if much water fell, the ponds near the lakes were kept full, and the lowlands in their vicinity continued healthy; but superabundant moisture assisted the decay of the leaves which covered the surface of the uplands, and fevers prevailed at a distance from the waters. The decay of the leaves of deciduous trees, as I think, is the true cause of the unwholesomeness of new and wooded countries. I believe the idea was first held out by Franklin, and acceded to by Dr. Rush, that wooded countries were healthy; but with the exception of the pine barrens of the south, compared with their swamps, the opinion is unsupported by either fact or reason. The woody regions of both Africa and the West Indies are the most sickly, and the name of Jungle Fever, shows where it prevails in the east. Have we not witnessed in our own times, in this country, surprising ameliorations made by removing the forest? The Genesee country is in proof, and perhaps still more so the country in which I now reside. Few of the first settlers escaped a seasoning: when I first became acquainted with that district, Endemic Disease was rife; now agues and dysenteries have almost disappeared from the valley, yet few drains are cut, and the removal of the forest is almost the only change.

I said unsupported by reason; for let us suppose an extensive area covered with a dense forest of trees that annually deposit their foliage, the gases evolved in the process of the decomposition of the leaves, are not of the most salubrious nature, as the pale and languid looks of the woodman testify. Let us suppose the same area covered with a verdant crop of grass or grain; it then becomes the laboratory of nature for purifying the air: every shower, the dews of each night deposited on the herbage, and acted on by the solar ray, evolve oxygen, the principle of vitality.

If neither heat or moisture, nor that child of the imagination, marsh miasmata, can fairly be arraigned as the remote cause of fever, where shall we look for it? Having for nearly forty years observed the species of ſever spoken of, always accompanied by, and never independent of vegetable or animal decomposition, the conclusion was unavoidable, that it was dependent on, or connected with that process. But whether our bodies are affected by a poisonous gas given out, or by a chemical change, a new play of affinities in the atmospheric air rendering it less fit to support the vital principle, is to me a desideratum which none of the eudiometrical observations that I have yet seen have tended to solve. The deleterious effects of vegetable and animal decomposition on the human body are established by innumerable facts with which the records of medicine abound. Profeſsor Jackson of Philadelphia, in his accurate statement of the fever that prevailed in that city in 1820, makes it appear more than probable, that the disease as it showed itself at Hodge's and Walnut-street wharves, arose from decaying vegetables. Five of the family of a Mr. Hawley, of Luzerne County, Pennsylvania, fell victims to a fever caused by potatoes decaying in the cellar. In 1806, I was called to visit a sick woman, who lived on an elevated situation, at a distance from any marsh or swamp—no disease prevailed in the neighbourhood, and there was no cellar to the house. I found the mother and two children confined with remittent fever, an uncommon complaint in that vicinity. After some inquiry, I found within a few rods of the door, a deep hole which had been dug for a well, but never stoned up: this had filled with rain water, and a number of half decayed logs had been rolled into it: a stench arose from it, resembling the bilge water of a foul ship. The place was filled up with gravel, and the sick recovered. On the 4th March 1808, I visited a sick child of Mr. M. The house stood on a sandy ridge at a distance from any ponds or marshes, the country was remarkably healthy, and the situation so much so that I have not heard of a sick case in the house since that time. The child, three years of age, had considerable fever; the mother attributed this to worms, and suspecting no other cause, the usual anthelmintics were given. On a subsequent visit I found a lad of nine years old on the bed, with flushed face, blood-shot eyes, violent headach, furred tongue, full pulse; in fine, all the well marked symptoms of bilious remittent fever. Miss M. a young lady of 18, complained of nausea, pain in the back, bitter taste in the mouth, a dull headach, the adnata yellow, slight fur on the tongue, bowels constipated. Mrs. M. had also lost her appetite, and complained of some pain in the back. Surprised at these appearances, I was at a loss to account for them. On my first visit, I perceived an unusual and very disagreeable smell, and looked around to discover the source; but every thing within and without bespoke the neatness and cleanliness of a respectable English family. However, on my third visit, as the fœtor continued, I ventured to inquire of Mrs. M. whence it arose. Both mother and daughter assured me that they were not sensible of any uncommon smell. I then inquired into the condition of the cellar; this had been well cleaned out sometime before; but on a little reflection, Mrs. M. recollected that about eight bushels of turnips in a frozen state, had lately been deposited there. On inspection the turnips were found in a complete state of putrefaction, emitting a horrible fœtor: a brisk west wind which found admittance through the cellar window, was forcing this steam through a trap door into the hall, and through every crack in the floor: the family had got habituated to the bad scent, which, increasing by degrees, was imperceptible to them, although intolerable to me. The cause was removed, lime strewed on the walls and bottom of the cellar, and the sick soon recovered. Here was a striking instance, that a low temperature will not guarantee us from disease; for on the morning of the 7th, the thermometer stood at only three degrees above cipher, nor rose above 25 during any time of the sickness. It shows also, that cold does not operate so much in lessening our susceptibility, as in destroying the cause. In this case, the position of the turnips in the cellar, protected them from the frost which would otherwise have arrested the process, as it is said that a degree of heat equal to 45 Fahrenheit, is necessary for vegetable decomposition.

In March 1822, a young man in my employ, while removing some sheep dung and litter, which were in a stage of putrefactive fermentation, and to the effluvia of which he was exposed for the most part of two days, on the afternoon of the second day, suddenly fell down, complained of violent headach, vomited several times, had nausea, and a most obstinate costiveness supervened, which it required repeated doses of calomel and jalap to remove. After a continued catharsis he recovered.

On the 18th September 1817, a fine lad about 18, the son of my neighbour, while passing along a ditch that forms the west line of my farm, observing some small fish, endeavoured to catch them, and wrought about an hour in the stagnant water. Towards evening of the next day he had chills, nausea, headach, a severe pain in the right shoulder and arm; the latter swelled, became insensible and immoveable, (he had used this in the ditch); he became comatose, and died on the eighth day.

I will not detain you by adducing more facts, as both your practice and reading will furnish them in abundance. Considering the ephemeral duration of the most splendid hypothesis, I will not at present dwell on the opinion I entertain of the modus operandi of this cause on the human body; my ideas on that subject may be found in the 7th No. of the New-York Medical and Physical Journal, as I ventured to deliver them before the Oneida County Society on the 1st July last. It may be there seen, that I suppose the deleterious cause, operating as a sedative poison, exerts its influence first on the cuticular nerves, by sympathy on those of the chylopoetic viscera, and finally on the whole system. Professor Jackson, in his account of the fever that prevailed in Philadelphia in 1820, has this remark: "Most of the malignant cases were attended with entire torpor of the capillaries of the skin." He also says, "the insensibility and inability was at times so great, that it could only have proceeded from the death of the surface." I have long been of opinion that the changed colour of the skin, the muddy or blood-shot appearance of the adnata, arose from a torpid state of the vessels, admitting too gross particles into their tubes.

And I am strongly led to suspect, that the engorgement or infarction observable, in the stomach duodenum, liver, and spleen, are not the result of active inflammation, but owing to an atony of the nerves in those organs. The discharges of blood, the pitch like stools, the black vomit, I believe are owing to the leaking of relaxed vessels, similar to the petechiæ observable on the skin, the construction of which latter, generally, though not always, prevents a flow of blood; even the effusions on the brain are often merely passive; for what resemblance has the stupor or coma that accompanies these, to Phrenitis, or the gastric symptoms of Endemic Fever, to Gastritis? I cannot but suspect that the celebrated Broussais has mistaken the effect for the cause, in thinking fever produced by local derangement.

Omitting for the present any inquiry into the symptoms or treatment of Endemic Fever, both of which are fully discussed by various authors, I will beg leave to make a few observations on the best plan of prevention. It is mercifully ordained by our benevolent Creator, that the poisonous effluvium is neutralized, and loses its power when sufficiently diluted with atmospheric air, and its influence is confined to narrow limits. Thus while between twenty and thirty thousand of the British troops lay sick at Walcheren, the soldiers and sailors aboard the fleet within a few rods of the shore, escaped; even those stationed in Fort Batz, were exempted, while their comrades without the gates were attacked. In 1816, when the troops and others stationed in Monks-hill barracks in Antigua, whose duty did not require them to sleep out of the barracks, enjoyed good health; the sentinels who mounted guard at the docks and other low places, were often seized while at their posts, with the most aggravated form of disease. The width of a street often gives security in Rome against the Malaria. In our own cities we often see one street deserted, and the next inhabited. How often have I seen a family whose house stood near a swamp or marsh, afflicted annually with fever, when their next neighbour within gun-shot, would for years have no occasion for the physician! The house and offices being located in the older settlements, there is seldom a chance of selection; but in new settlements, much may be done, for on almost every one hundred acres of improvable land, there may some healthy elevated place be found, on which the dwelling-house ought to be erected. Here the first clearing ought to be made, and if possible ten or twenty acres opened to the sun, and seeded down, a year before the family of the settler arrives. I esteem all countries covered with deciduous timber unhealthy, but not so much so as the western prairies, whose luxuriant herbage untouched by the mower's scythe, springs up to fall and decay, and in its decomposition to poison the air; but the axe and fire in the one, the scythe and the plough in the other, in process of time, will, for the planter, remedy these evils.

In locating a site for a town or a village, the salubrity of the spot is of the first importance; without this the place can never flourish; no commercial advantage is to be put in competition. The enterprise of man may create conveniences for trade in almost any place, but his ingenuity cannot ensure health to the inhabitants, in an unfavourable location. The States of Louisiana, Mississippi, Alabama, and the Floridas, afford ample room for reflection on this subject. From the Balize to the narrows of New-York, there is an extensive coast to be protected. In choosing points to be fortified and stations for troops, more evil may be incurred, than is to be dreaded from the most desperate enemy, and disease may destroy more than war. These stations ought to be garrisoned by men accustomed to the climate, and if possible recruited in the neighbourhood.

There are many stations along our southern coasts, in the Floridas, and on the Mississippi, which would prove as fatal to New-England troops, as the island of Ceylon does to the British, in some parts of which latter, a whole regiment will perish in three years. It appears from accurate returns, that seven-eighths of the British army who die of disease, fall victims to the insalubrity of the stations in their colonial dependencies. The Terre au Bœuf tragedy, was a warning which we should not forget.

In the prevention of Endemic disease, much may be done by care and prudence: almost every obstacle will yield to human industry. Egypt, now at times the hot-bed of plague and pestilence, was anciently almost a stranger to sickness. The Campania, now uninhabitable, was formerly the residence of the Roman nobility. What more striking proof can we have of the all-conquering power of human exertion and perseverance, than the number of populous cities built on the alluvion formed by the Rhine? Here the industrious Batavian not only bids defiance to Neptune, from whose domain he has won his territory, but by unremitting attention to cleanliness, he enjoys in his submarine habitations among bogs and marshes, an exemption from disease, often greater than that of the nastier nations in his neighbourhood, notwithstanding their superior location. The Hollander, carrying his habits of cleanliness on board his ships, ridicules the idea of importation, and makes no use of expurgators. I have seen an extensive district, where half a century ago no stranger could remain a week during the harvest months, without laying the foundation of an ague or fever, but which at this time is allowed to be the most fertile, and best cultivated in the British Isle, and where these diseases are unknown. But I need not depart from the county where I now live for an example of the effect of cultivation; when Oneida was first settled, Agues, Remittents, Dysenteries, and other Endemic Diseases were common; we may now vie with any section of the union, or perhaps of the universe, for exemption from these maladies. Perhaps it might be prudent to stop here, but I find it difficult to forego the opportunity which your kindness has this day afforded me, of giving some evidence of the interest, which in common with my fellow-citizens, I take in the prosperity of the capital, and of throwing my mite of evidence in what I consider the side of humanity. Placed in this seat by your suffrages, I will not conceal that I feel a pride in being a citizen of the first state in the union, whose chief city is now the emporium of America, and which has the means of becoming the first commercial city in the world. I cannot at this time dwell on the vast advantages she possesses, nor the immense territory and numerous population which through this spot, must hold intercourse with the rest of the world. I confine myself to some observations on its locality, which in point of salubrity, I feel warranted in asserting is superior to any city of magnitude, of which mention is made either in modern or ancient history. Why then does disease at times visit this highly favoured spot? It is neither " the sun, showers, nor soil," that make New-York at times the seat of pestilence. Let it be remembered, that this place was the head-quarters of the British army, the rendezvous of her fleets, and almost the only point of intercourse between this continent, and not only the West Indies, but almost everywhere else during the chief period of the revolutionary war; yet both citizens and troops remained healthy. Perhaps a parallel instance cannot be found in history. This fact speaks volumes for the natural salubrity of the place. A glance at the plan of the city shows its advantageous position,—a tongue or peninsula of primary formation, and sufficient elevation, stretching into an extensive bay, open on the south to the sea breeze, and bounded by two noble rivers, whose rocky shores afford neither swamp nor marshes. On my arrival at New-York, in 1785, I found the whole space between the east side of Broadway and the river was vacant; it was a sandy soil, with a gradual descent to the west, at whose foot the tide washed a sand and gravel beach: this shore when fanned with the exhilarating westerly breeze, which had swept the surface of the noble Hudson, might have been selected by Hygeia, as her chosen abode. The citizens of New-York, at that time bore in their faces the bloom of health, and no signs of Endemic Disease were discernible in their looks. Ten years afterward my business called me to the capital, but the change I found in the looks of the citizens astonished me; those living near the docks and wharves, indeed on most of the streets along the East River, had the pale sallow look, the yellow skin and muddy eyes, with which I had become familiar in the lake country, during the preceding four years.

The inhabitants bore the marks of Endemic Disease, and on inquiry, I found that the disorder that raged in the city, had been accompanied with the same symptoms as that which prevailed in the country. A most intimate friend then resided in the lower part of Pearl-street; he had lost a son and daughter, and barely survived himself, while his eldest daughter, who nursed her relations, had escaped the fever. Although there was neither swamp or marsh, yet sources of disease were not wanting where vessels formerly lay. I found spacious streets, and elegant houses, slips and basins filled up, and many acres gained from the sea, and converted as I was informed, not into airy land, but a mass of putrefiable stuff, with which the most noxious swamp in Genesee could not compare. The North River side, where encroachment had not commenced, still remained healthy, and proved a safe retreat for the afflicted citizens.

In the spring of 1820, I was again in the city, and witnessed the improvements going on, on the west side, the consequences of which became visible in 1822. Had the bank of the North River been left as it was originally, the tide would have removed all the filth brought down the cross streets, and all the sugar boxes ever brought from Havana, would never have infected a spot large enough for a moscheto to alight on.

In the country it often requires years, sometimes ages, to conquer the source of disease, for vegetation annually supplies the pabulum. In cities, provided their location be favourable, it is man who works his own destruction, first by his improvidence, next by his negligence. When the streets of London were filled with filth, and privies remained undisturbed for years under every dwelling, that city was annoyed with plagues and other diseases: for the last century and a half she has been exempt, although her intercourse with Asia, Africa, and America, has increased tenfold. Why does the plague that often ravages Turkey, never visit Persia? Because the Persians are the neatest people in the world, never permitting vegetable or animal matter to putrefy on the surface. They are the Hollanders of Asia.

If her citizens do not mar her destiny, New-York must become in a future, perhaps not distant period, the emporium of the world, or like ancient Carthage, sit the queen of the ocean. But if this city is to be infested every few years by malignant fever, if her citizens must leave their homes and interrupt their commercial concerns, some other place may attract her trade, and her customers form new connexions. That this great evil may be avoided, on my mind rests no doubt. Quarantines have been faithfully tried, but are found wanting. At the risk of being charged with vanity, I, a back-woodsman, will submit my plan. Let a wall of perfect masonry, laid in waterproof lime, and connected with iron clamps, be run from Greenwich to the west Battery, and from where Fort Clinton stood to Corlaers Hook, the face of these walls kept sacredly clear of all additions, so that the tides may uninterruptedly sweep the whole front, the space behind the wall filled up with the primary rock, which abounds on the shores of both rivers. Or imitating the New-Orleans plan, so much per ton may be paid for clean ballast deposited on the spot. Thus the basins and slips, those receptacles of filth, and nurseries of disease, from whose effluvia the stranger and sailor often sicken and die, would be done away with. On the space gained, a line of warehouses might be erected suitable to the prospects of the city. In front of the wall at a suitable distance, and connected therewith by bridges, a range of wharves could be formed, which would answer the purposes of deposite, and prove a safe harbour for the river craft and coasters. A deep and wide cut, in the direction of Canal-street, from river to river, so that the tide might pass, ought to be made. Here the canal boats from the west and north would assemble, secured from the southern gales, which neither their sides or gunwales are well calculated to support. Every sewer in the city should be filled up; there is not sufficient descent for their quick discharge, and our powerful sun penetrates much deeper than in the middle or northern Europe, where sewers are in use. Every perishable substance ought to be left on the surface, where it may meet the eye, where it must soon be dried by the sun, like our hay, or be removed by the scavenger. The corporation has done wisely in forbidding interments within the city. The records of medicine abound with the most indubitable facts of the dreadful effects arising from the decomposition of animal substance. The wise Romans preserved the ashes of their ancestors in beautiful urns ; and perhaps this was a mode preferable to resigning their remains as a prey to the worm, and a poison to the living. The delicate Hindoo, ascends the funeral pile of her husband. Custom is every thing. The Chinese find the most valuable manure in what with us is a great nuisance. The formation of poudrette, as practised in France, would fertilize our fields, and be a valuable relief to the inhabitants of cities. Pure and good water from a distance would be a great desideratum. The filterings used in the city are extremely offensive, especially to the stomach of a stranger. One ounce of prevention is better than a pound of cure. Probably before the commencement of another century, the island of Manhattan will be thickly covered with human habitations. He whose patriotic endeavours would ensure health to such a number of his fellow-creatures, would be more worthy of a monument than the proudest hero of the age ; nay, if we may believe the Roman orator, he would approach nearer the divine nature : Homines enim ad Deos, nulla re, proprius accedunt, quam salutem hominibus dando.

With timely precaution, and proper regulations rigidly enforced, the port and city of New-York (by their excellent position) may be made as healthy as the same extent of surface in any section of the globe, where Endemic Fever could no more exist than at the pine orchard in the Blue Mountains.

It may be perceived, that in common with those whose chief residence has been in countries where Endemic Fever is prevalent, I believe in the domestic origin of yellow fever. I have never met with a gentleman from the East or West Indies, nor even from the southern states, whose residence was on the tide waters, who entertained a doubt on the subject. We know that every or almost every malignant case is attended with yellow skin, and almost every fatal one closed with black vomit, or the vomiting of black matter spoken of by Hippocrates.

The idea of contagion was the trick of a crafty priest, who, with the aid of a physician, thereby frightened a council from Trent to his city of Bologna, as the pestilence was said to have a partiality for noble blood. The shocking scenes which took place in Spain, even as late as 1821, ought to warn the contagionists of the dangerous tendency of their doctrine. At Barcelona and Barcelonetta, when the wretched inhabitants sought refuge in the country, they were met by their friends with fire-arms, forced back to the source of pestilence, where, to complete the tragedy, the government surrounded them with a cordon of troops, thereby condemning them to inevitable destruction. Yet we have the evidence of the intrepid O'Halloran, and the veteran Jackson, confirmed by a memorial from many respectable French, English, and I am happy to add, Spanish physicians, that the disease of the peninsula was neither imported nor contagious, but the Endemic of the country. From the medical ranks of the universe, a more proper person than the venerable Jackson could not have been selected, to ascertain the real state of the case; his long residence in the West Indies, the years he passed in our southern states, qualified him peculiarly for the task. Actuated by the sublime love of science, and most zealous philanthropy, at his own expense, and the risk of his life, this second Howard, at the age of seventy, left his friends and home, passing into a foreign country, to examine at its source the cause of disease. To you who know him by his excellent publications on fever, I need not add that he alone is a host. Indeed the English physicians had already begun to open their eyes on this subject: the countrymen of Bacon and Newton will not listen long to sophistry, even from respectable sources. Many of the most respectable French, and even Spanish physicians, have correct ideas on the subject. The nineteenth century will not be disgraced by Galilean recantations and auto-de-fés of philosophical works. It is with much satisfaction that I state, the world is principally indebted to American physicians for true views on that subject. Need I mention the name of the scientific Ramsay; the magnanimous Rush, who honourably acknowledged his first mistake; and last, though not least, he who is yet spared to us, an honour to the profession, and a blessing to his country, Philip Syng Physick? I might add, I believe, the name of every gentleman in the excellent Medical Schools of Baltimore and Philadelphia; nor can we forget our own Miller, Smith, and Bayley; and those respectable gentlemen who conducted the Medical Repository, a work which, for erudition and science, in my humble opinion, is not second to any either in America or Europe. It must be highly gratifying to the gentlemen now living, who have conducted this work, to observe that the opinions they zealously and invariably supported, are making rapid progress through the civilized world. My predilection for the Repository does not render me insensible to the merits of other American Medical Journals, which I esteem most honourable proofs of the science and literary acquirements of our country, and complete refutations of any sneers, that may, perhaps inadvertently, have escaped our professed friends across the water. We know, from the materials and construction of vessels, that they are liable to decay. Even line of battle ships, built for the British navy, have been found rotten before they were launched, and pronounced not seaworthy before they reached the ocean. Perhaps there is no place equal to the unventilated hold of a vessel, to promote vegetable putrefaction; hence the well-authenticated cases of Endemic Fever, arising on shipboard. A vessel, with a decaying cargo or foul hold, arrives at our wharves; the seamen have hitherto escaped by the gradual exposure, but the visitants from a purer air sicken and die: here is indeed importation of the cause, to prevent which quarantines are useful. But causes of another kind happen more frequently. A clean ship, with a sound cargo and healthy crew, arrives at a seaport in the month of July or August: the effluvium from the slips, basins, or wharves, has not yet acquired virulence sufficient to affect the acclimated citizens; but the seamen, accustomed to the pure air of the ocean, fall victims to the deleterious emanation: by and by, as the poison gains strength, the citizens become affected, and the case of the unfortunate sailor is hunted up as proof positive of importation. If time would permit, I might enlarge on this topic, and show its importance to the statesman, politician, and philanthropist; what evils result from mistaken views on the subject; how vexatious, absurd, useless, and inefficient, some of the quarantine regulations are, creating not only loss of property, but hazard of life. I might show, from the reports of physicians, both as individuals and in incorporations, from the boards of health of the different cities from Mobile to Philadelphia; I might cite the opinion of the president of the board of the latter city, relating to this subject, in 1820; the reports of the board of New-York, in 1822: from which it appears, that in each city, although upwards of one hundred sick with the fever were removed to other and populous parts of the cities, yet not in a single instance was the disease communicated. I might refer you to the experiment of M. Guyon of Port Royal, Martinique, as related in the Revue Medicale, for February last. M. G. put on the shirt, while yet warm, of a man in yellow fever, wore it two hours, inoculated himself repeatedly with matter from the blisters, drank the black vomit; he went into the bed soiled with various excrements of a soldier sick with yellow fever, and lay in it for six and a half hours. This patient died, and in his stomach was found a large quantity of black matter, yet M. G. remained in perfect health. It would be a waste of time to recapitulate the innumerable well authenticated proofs of the non-contagious nature of yellow fever, which, as Dr. Good states, is one of the severest and most fatal forms, under which the malignant remittent shows itself. The very few respectable physicians in this state, who still contend for the contagious nature of the yellow fever, fortunately confine the contagious attribute to the contaminated air of what is called the infected district. Now, although I am ignorant of the analogy by which the idea may be supported, that a disease can be contagious at one place, and not at another; neither do I know of any data to distinguish between the effect of impure air and contagion, especially since the presence of the former can only be known by the result; yet I think it highly fortunate, that the foul air is by both parties deemed the *sine qua non*, without which the disease cannot exist: the prevention of this state of atmosphere is therefore the chief end to be kept in view; nor till that exists, can any very serious consequences result from importation. Had the Spaniards entertained a similar opinion of the limited power of contagion, they would not have driven their countrymen from the hills, or surrounded them with cordons of troops. But let us not be too severe on the Spaniards; since in our own country, among a people pre-eminent for intelligence and humanity, a poor woman was abandoned in the night, and found dead next morning, with an infant at her breast. This never could have happened at Charleston; yet the Carolinians are not more benevolent than the people of Connecticut; but amidst the marshes and swamps, interspersed with the sands of their alluvion, the former have by experience acquired more just views of Endemic Fever, than the latter can attain among their rocky hills and ridges of primary formation.

ART. II. REMARKS *on the* EUPHORBIA HYPERICIFOLIA. By WILLIAM ZOLLICKOFFER, M. D., of Maryland; corresponding member of the Medico-Botanical Society of London, and honorary member of many learned bodies;—in a letter to the Hon. SAMUEL L. MITCHILL, M. D., &c. dated Middleburgh, Maryland, Feb. 14, 1824.

IT is with pleasure that I present the medical profession with the following remarks, in relation to the remedial powers of the Euphorbia Hypericifolia, the medicinal virtues of which have heretofore been unnoticed by the various writers on the Materia Medica.

This plant, which is exclusively a native of the United States, attracted my attention in the year 1819, when I determined to enter into an experimental investigation of its virtues, in order to become acquainted with its true medicinal character; but the various duties connected with my professional avocations, prevented me from embracing a satisfactory opportunity until within a very recent period, when I made the necessary examination, the result of which is communicated through the medium of this paper.

The Euphorbia Hypericifolia delights in a rich and prolific soil, and is an inhabitant of gardens and other fertile situations. It is recognised by the common and local appellations of Black-pursely, Milk-pursely, Milk-weed, &c. Michaux, who doubtless was well acquainted with it, has presented us with the succeeding description of its specific character: "Euphorbia Hypericifolia, glabra dichotemi, ramosissima, erectiuscula-patula, ramis divaricatis; foliis oppositis; subfalcato oblongis, argute serratis, ramusculis summitate fasciculatim multiflores."

This species of Euphorbia is an annual plant, which grows to the height of a foot, and is rather procumbent. It has a smooth stalk, which is repeatedly forked with divaricated branches. The leaves, which are opposite and oblong, are somewhat falciform, and deeply serrated; these are often covered with purple spots. The flowers, which appear in August and September, are white, and situated in numerous quantities on the extremity of the small branches. This plant, of which I perceive there is another variety, belongs to the eleventh class Dodecandra, the third order Trigynia, and the natural order Tricoccæ of Linnæus, and Euphorbia of Jussieu.

In the course of my experimental inquiry on the Euphorbia Hypericifolia, I digested several portions of the powdered plant in sulphuric ether and alcohol. The ethereal solution gave a precipitate upon the addition of alcohol. The alcoholic preparation assumed a pearly turbidness when distilled water was added. Both the ethereal and alcoholic solutions, upon being evaporated, afforded a residuum, which burnt with great vividness, and exhibited a flame much like that resulting from the combustion of the spirits of wine. The infusion and decoction in distilled water produced a copious precipitate, when either gelatin, or the sulphate of iron, was added. From these results we may reasonably conclude, that this plant contains caoutchouc, resin, and tannin.

In its sensible and operative qualities, this interesting indigenous production differs very materially from all the species belonging to the genus Euphorbia, hitherto known. Its taste is somewhat sweetish, which is succeeded by a considerable degree of astringency. In its effects on the animal economy, it is slightly narcotic and potently astringent.

As a remedial agent, the article under consideration is richly deserving of a conspicuous situation in the Materia Medica. Its astringent power is such as to render it a highly important and interesting remedy, in the treatment of those cases of disease, in which many of the valuable articles that are included in this class of medicines, have been exhibited with the most unequivocal and unparalleled success. I have, however, found it particularly beneficial in several of the diseases of the alimentary canal. The slight narcotic property that it possesses, renders it a more salutary and efficacious remedy, than the most of our astringents, in consequence of its allaying the sensibility of the parts with which it comes in contact, and thereby affording relief from pain, while by its astringent operation, tone is imparted to the debilitated vessels, which restores to them the performance of their destined functions.

In dysentery, I have directed the internal exhibition of the Euphorbia Hypericifolia, and that with the happiest results, where the true dysenteric symptoms have continued, after the inflammatory diathesis has been subdued, by the adoption of the most efficient antiphlogistic means, with which a knowledge of the science of our profession acquaints us. It is however, under circumstances of this kind only, that I can conscientiously present it to the medical public, as a remedy of no small degree of importance, from a firm persuasion of the internal administration of astringents being counter-indicated, so long as the pyrexia continues.

Diarrhœa, a malady with which the inhabitants of almost every section of the globe are more or less affected, is a disease which, although in the generality of cases, seldom proves so eminently dangerous, as the one that has just been noticed; nevertheless, it not unfrequently, from its debilitating influence, undermines the vital energies, and consequently acts as an outlet to human existence. In this disease, I can recommend this species of Euphorbia: but previous to prescribing it, I have been in the habit of directing a dose of the sub. mur. hyd. in conjunction with the ol. ricini, or some other purgative medicine, with the view of removing any vitiated secretions that might be present in the intestinal canal. When this disease has been of long standing, from a protracted debility of the bowels, this remedial agent will be found a prompt and effectual medicine.

The following plan I have adopted, in relation to its preparation for administration, as well as for its mode of exhibition. The dose is intended for an adult; which can be proportioned according to the age of the patient.

℞ Euphorbiæ hypericifoliæ foliorum exsiccat. ℥ſs. Infunde in octario aquæ bulientis, capiat cochlearia magna unaquaque horâ donec morbi symtomata cessantur.

I should suppose, from the operative powers of the Euphorbia Hypericifolia, that it might likewise be used with advantage in cholera infantum; in this disease I have never used it, and consequently can say nothing upon its utility.

I now close this subject, by expressing a wish, that those connected with the profession, who feel deeply interested in the improvement of the materia medica of our country, will not only test the efficacy of the plant above mentioned, in the diseases in which I have recommended it, but will also test its usefulness in the diseases, in which astringent remedies are indicated.

ART. III. REMARKS *on the* DISEASES, *received in the New-York Hospital during the months of December*, 1823, *and January and February*, 1824. By DAVID HOSACK, M. D. Professor of the Theory and Practice of Physic and Clinical Medicine, &c.

TO THE EDITORS OF THE
NEW-YORK MEDICAL AND PHYSICAL JOURNAL.

New-York, March 1st, 1824.

GENTLEMEN,

I have just finished my annual tour of duty at the New-York Hospital. If the subjoined enumeration of the diseases, which have been received in that institution during the last three months of my attendance, and the memoranda I have made of the most interesting circumstances that have occurred in the progress and treatment of those diseases, and of the means that have been found most successful in the relief and restoration of those that recovered, may be deemed of sufficient value, to merit a place in your journal, they are at your service.

I am, Gentlemen,
respectfully yours,
DAVID HOSACK.

Diseases of the New-York Hospital.

Diseases.	Cured	Died.	Relieved.	Remain	Total.
Amenorrhœa			1		1
Apoplexia		1			1
Bronchitis				1	1
Chorea	1		1	1	3
Cephalalgia	4				4
Constipatio	1				1
Delirium Tremens				1	1
Diarrhœa	6	2		1	9
Dysenteria	1		1	1	3
Dyspepsia	2				2

Diseases	Cured	Died.	Relieved.	Remain	Total.
Epilepsia - - - - -		1		1	2
Epistaxis - - - - -	1			1	2
Febres Intermittentes -	17			2	19
Febres continuæ - -	5				5
Hematemesis - - -	1				1
Hemiplegia - - -				1	1
Hepatitis - - - -	2	1	1	2	6
Hydrops - - - - -	1	1		3	5
Hysteritis - - - -			1	1	2
Laryngitis - - - -	1				1
Leucorrhœa - - -				1	1
Lupus - - - - - -				1	1
Menorrhagia - - -	1				1
Paralysis - - - -	1			4	5
Phthisis Pulmonalis -	2	12		8	22
Pneumonia - - - -	22	4		6	32
Rheumatismus - - -	28			14	42
Syphilis - - - -	11			5	16
Splenitis - - - -	1			1	2
Tympanitis - - - -	1			1	2
Tumor - - - - - -	1				1
Variola - - - - -			1		1
Urethritis - - - -	2			4	6
	113	22	6	61	202

Amenorrhœa.—The case above referred to was of ten years standing, and had resisted all the ordinary aloetic and mercurial emmenagogues that had been prescribed. It was relieved by the use of an injection per vaginam, of the aqua ammoniæ and rain water, in the proportion of half a dram of the former to eight ounces of the latter; the injection was administered three times a day. It excited a slight degree of irritation: in about five weeks the catamenia were restored.

Chorea.—This case occurred in a young girl aged twelve years, of a very delicate habit of body. She was received in the house on the 2d day of December; the bowels having been evacuated by a dose of rhubarb and magnesia, I prescribed for her the usual course of treatment that I have found most successful in this disease, and which has rarely failed to effect a cure. This consisted of the carbonate of iron given in doses of ten grains, in combination with two of ginger, night and morning, the tincture of castor given to the quantity of two drams three times a day, and the cold bath made use of three times a week; finding that the patient did not receive the same degree of relief that I had been accustomed to witness from the use of those means, on the 28th day of December, I directed five drops of Fowler's solution to be given three times a day. This has effected a cure. The same preparation of arsenic has also been very successfully exhibited in four cases of Cephalalgia, as it was denominated in the books of the house, but which exhibited all the acute sufferings and peculiar symptoms of Neuralgia.

The cases of *Chronic Diarrhœa* as usual, were obstinate, and very difficult to be controlled. Most of them had been contracted in the tropics, and were the sequelæ of dysentery and long continued fevers, in which large quantities of mercury had been exhibited: they also had been of long standing, previous to their admission into the Hospital. Of eight cases thus admitted, two proved fatal: the others were relieved by the application of blisters to the lower extremities, and antimonial ointment rubbed upon the abdomen three times a day, until an eruption was produced; an anodyne at bed time was also a valuable auxiliary. In one case, in which the disease was attended with fever, and great heat and dryness of the skin, much benefit was derived from the use of the spiritus mindereri, combined with a small quantity of laudanum. In one of the above cases, some advantage appeared to be received from the acetate of lead in combination with opium; but in other cases it did not fulfil the expectations usually formed of its use. I have, after frequent trials, and as frequent disappointments, long since been convinced of the inefficacy of this medicine in restraining excessive discharges, whether hemorrhagic or otherwise, and that the credit usually attributed to the acetate of lead as an astringent, is due to the opium with which it is ordinarily associated.

In private practice I have sometimes prescribed the infusion of Quassia simarouba in chronic diarrhœa, and with the same good effects that have been ascribed to it by Dr. Huck* and other army physicians, who have recommended its use in this obstinate complaint. But in Hospital practice I have oftentimes given it without the least sensible effect in restraining the disease. A swathe of flannel, and a compress applied to the belly, in the manner recommended by the late Dr. Dewar,† of Edinburgh, I have also found highly useful, not only in cases of this nature, but in the ordinary diarrhœa and cholera infantum of the summer season.

In one of the cases of *Dyspepsia* in the above enumeration, the disease was attended with excessive vomiting, and the rejection of every article that had been taken, whether of food or medicine. In this case I directed a table-spoonful of milk to be taken every half hour, as in the cases recorded by Dr. William Hunter,‡ prohibiting any thing else to be given; from this time the vomiting ceased, and in a few days the patient was entirely restored.

Intermittent fevers, you will observe, were of frequent occurrence during the last three months. As in a former year,§ I again prescribed the prussiate of iron, so highly recommended by Dr. Zollickoffer, but not with the same success which I had observed from its use at that time; indeed in most cases it disappointed me.

The Quinine was then directed; in some cases given in the form of the sulphate, and in others that of the super-sulphate prepared as follows:—

℞.	Sulphat. Quinin.	ʒi
	Elixir vitriol.	ʒſs
	Syrup Zingib.	℥ij

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* Lond. Obs. & Inquiries.

† Observations on Dysentery.

‡ See Medical Obs. & Inquiries of London, Vol. VI. p. 310.

§ Medical and Physical Journal, Vol. II. p. 199

Of this mixture, a teaspoonful was given every hour, and in every case, with the most perfect success, in preventing the return of the paroxysm; the minutes kept by the house physician, Mr. Rhinelander, also show this formula, containing the superaddition of the sulphuric acid to possess much greater efficacy than the sulphate, as it is ordinarily exhibited.

In a case of *Noli me tangere*, the Lupus of Willan, which had been of seven years standing, and connected with a scrofulous state of the habit, great benefit was derived from the arsenic directed in the form of Justamond's ointment; and after some days' use of it, succeeded by white precipitate ointment; the patient, at the same time, making use of the decoction of the woods. In similar affections of the lips, or alæ of the nose, I have rarely failed to arrest their progress by the application of arsenic prepared agreeably to the formula of Justamond, aiding its operation by the decoction of sarsaparilla.

Phthisis pulmonalis in its advanced stage, rarely yields to the healing art. In several of the above cases, however, the most decided benefit was obtained from the tonic treatment, particularly from the bitter infusion in combination with the sulphuric acid, and by the use of the fumes of boiling tar, as recommended by Sir Alexander Crichton. In one case of a most unpromising nature, the latter remedy, in conjunction with the free use of tar water, taken from a pint to a quart daily, effected a cure. The patient came into the house greatly exhausted, expectorating at least half a pint of the most offensive purulent matter in twenty-four hours. By the use of the last mentioned remedies, this excessive drain was gradually lessened, and in six weeks from the time the patient commenced the use of the tar water and the tar fumigation, he was discharged from the hospital perfectly cured.

Rheumatism, especially in the chronic form, constitutes a large portion of the diseases admitted into the hospital in the autumn and winter. In former years, in addition to the warm bath, the decoction of the woods, Dover's powder, the volatile tincture of guiacum, and blisters to the part affected, I have observed the most decided benefit from the use of the flannel roller, as directed by Dr. Balfour; but in the last three months, I have had recourse to the antimonial ointment, quickened by the addition of the tincture of cantharides, or of blistering ointment, with more effect than from any local application I have ever directed in this disease. The formula employed, is as follows:—

℞ Tart. Antimon. ʒiij.
Adip. Suill. ℥i.
Tinct. Lyttæ gtt xxx.
Vel. Ung. Vesicat. ʒi. M.

The limb or part affected, was directed to be rubbed three times a day with this ointment; an eruption of pustules soon succeeded, which very rarely failed to afford relief. In some instances, in which the rheumatic affection was attended with an enlargement or unusual laxity of the joint, great advantage was obtained from the celebrated Hungarian plaster. This consists of the gum ammoniac, dissolved to saturation in the vinegar of squills; a flannel cloth dipped in this liquid, and closely applied to the affected joint, not only produced an excitement and eruption similar to the antimonial ointment, but when dried and contracted around the joint, afforded the additional advantage of a mechanical support to the relaxed parts, in aid of the excitement derived from the stimulating ingredients composing the plaister.

Syphilis.—In the treatment of this disease, I have continued as heretofore, in private practice, and in my attendance upon the public institutions of this city, to prefer those preparations of mercury, which are least calculated to affect the mouth, viz. the corrosive sublimate and the Plummer's pill. As a rule, with few exceptions, I have found the internal preferable to the external use of mercury; and the mercurial salt, which from an ample experience, I recommend as combining most advantages, and as agreeing best with the greatest number of cases, is the oxymuriate of mercury. This salt, either in the form of pill or of solution, I have uniformly employed with success for the cure of syphilis, not only when the disease has been recently contracted, but in the most malignant form which it assumes when it has been neglected or injudiciously managed. A valuable auxiliary will also be found in the decoction of the lignum guiaci and the radix sarsaparillæ, as powerful alteratives. Contrary to the opinion of Mr. Pearson,* the corrosive sublimate has invariably been found to be the remedy best calculated for the removal of lues venerea both in its primary and secondary stages. It is somewhat singular that this efficient preparation should have been so long and so generally laid aside after the powerful evidence in its favour advanced by Dr. Locker, of the Vienna hospital, and other equally distinguished clinical observers. I must also protest against the salivating system by friction with mercurial ointment and the use of calomel, so commonly had recourse to. It is true that those forms of exhibiting mercury very soon affect the gums, but it is no less true, that when mercury exerts its influence upon the salivary glands in proportion as this influence is manifested, it ceases to operate upon the other excretions of the system, and consequently is less active in eliminating from the body the poison of the disease. Salivation it is now well ascertained, is unnecessary in the treatment of syphilis, and the knowledge of this truth cannot be too extensively circulated. Moreover, I am persuaded that cutaneous affections from mercury more frequently arise from its external than from its internal use. In the treatment of chancres and the ulcers of buboes when opened, the yellow, and the black washes, were found highly advantageous according to the state of the parts.

ART. IV. A CASE *of* HYDROPHOBIA *successfully treated by cold Affusion.* By DAVID R. ARNELL, M. D., President of the Medical Society of Orange county.

JOSHUA CASE, aged 17, apprentice to a blacksmith in this town (Goshen) was bitten on the leg by a small strange dog which came into the shop where he was at work on the 8th of November, 1811. The dog looked sickly at the time he entered the shop, and the boy undertook to drive him out, when the bite was given: no apprehensions, however, were suggested of the dog being rabid until the afternoon of the 17th. Being sabbath, the family were all about the house, and it was observed by some that the boy was very dull and stupid, frequently starting, but taking little notice of any one around him. Early in the evening he was requested to go to bed, which he did in an upper room. He had been in bed about an hour, when he arose, got out of an upper window on the roof of the kitchen, where he was discovered, frequently making a noise like the barking or growling of a dog, which first led the family to suppose he was labouring under hydrophobia. I was called to see him about 11 o'clock at night; I found him sitting in a chair with two men behind him, holding him fast in such a position as to prevent him from biting them; as by this time they were convinced he was labouring under all the symptoms of hydrophobic derangement. His pulse was very little, if any, altered from natural; his eyes were dull, and showed very little expression; about once in six minutes he appeared to have convulsions in his throat and jaws; made a hoarse, croaking noise, somewhat resembling the growl of a dog very frequently; and the by-standers said that his breath resembled the smell of a dog, which, however, I could not discover. I procured a large pitcher of water, and urged him to drink some from a tumbler, which produced the same convulsive action of his throat as had previously occurred at regular intervals; the same effects were produced by bringing water in his sight; he refused to drink, but after repeated solicitations and trials, which produced the same results, he attempted to drink, but did not succeed. The dread of water was very evident in his case, and the other symptoms, connected with having received a bite from an animal which had the appearance of being mad, were such as to convince me he was really labouring under the hydrophobic disease. After coming to this conclusion, you may easily imagine the state of my own feelings. I had seen the disease twice before in the human species, both of whom perished under all its horrors; and I had no confidence in any mode of treatment which had been laid down by authors.

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* See his work on the effects of various articles of the materia medica in Lues Venerea.

The history of this singular disease has indeed been accurately described by writers; but the numerous remedies and plans of treatment prescribed by them are marked either by ignorance, superstition, or want of success. My mind referred me back to the time of that laborious investigator, Boerhaave, who pronounced the complaint "summe inflammatorius." The method of cure accordingly consisted in *copious bleeding*. Dr. Rush, who first admitted the disease to consist in "relaxation;" but afterwards with a candour peculiar to himself, renounced this opinion, declared it to be a "malignant state of fever," and advised the same remedy. I could do no better I thought than to follow their directions, and I bled him about ℥xxiv. When the blood began to flow, the symptoms increased, and continued to do so until the blood stopped. The blood had no unusual appearance, neither did it make any alteration in his complaint. The neighbours who were present, then advised to tie him with a rope, in order to prevent him from biting any one; to do which he made frequent attempts, when the convulsions were on him. He understood well what was said to him, and showed a determination to resist, if any attempts were made for that purpose. He endeavoured to get away from those who held him, and in their attempts to secure him, they threw him on the floor directly on his back. The pitcher of water was standing on the table, which immediately suggested to my mind the propriety of applying this remedy until the morbid and diseased action of the system should be destroyed, or the diseased action should overcome the system, which would either cure him or put a period to his sufferings, as I considered that death was to be the inevitable consequence. Accordingly I began to pour the cold water in a small and constant stream into his face; his whole system was immediately very much convulsed; more water was procured, and the stream continued about two hours and a half; during all which period the convulsions were continued; but at this time every convulsive action ceased, he was perfectly calm, had no dread of water, as he was nearly covered with it; in a few minutes he got up himself, walked to the fire, and has had no symptoms of the disease since.

I am confident that this was a case of real hydrophobia, and that it was cured by the long and continued use of the cold water; it might have been assisted by the large bleeding which he had a short time before the application of the water. I am more convinced of the efficacy of this treatment by a case lately published in the Philadelphia Medical Recorder, where the patient was made to drink large quantities of cold water, which had the same good effect, although the physicians, from that circumstance, concluded the case was not hydrophobia; yet, as the horror of water was overcome by drinking water, which is the only circumstance which takes from it the character of this disease, I conclude it produced the cure. A case lately published by G. Magendie, where a patient was treated at the Hotel Dieu of Paris, by injecting warm water into the vein of the fore-arm with success, strengthens this opinion. If I was called to another patient labouring under the hydrophobia, I would pursue the course which I have detailed above.

ART. V. A CASE of VARICOCELE *cured by tying the Spermatic Artery.* By STEPHEN BROWN, M. D. of New-York.

A VARICOSE enlargement of the veins of the spermatic chord is a disease of not unfrequent occurrence; and although in the generality of cases the inconvenience arising from it is so slight as not to call for surgical interference, yet it sometimes proves a disease of serious inconvenience and suffering. When the ordinary means have proved ineffectual in relieving the sufferer, an operation has, in some instances, been resorted to, and the testis itself has been removed by respectable surgeons, as the only means of answering the purpose intended.

Mr. Charles Bell states, that he assisted, in a few instances, in the operation of cutting down upon the coil of enlarged veins, passing a ligature around them in two different places, and then dissecting out an intermediate portion, and with at least partial success. The following case will perhaps be regarded not without interest.

Mr. H. aged 22 years, and a farmer by occupation, while ploughing in his field in June 1821, by accident received a violent blow upon the spermatic chord, just below Poupart's ligament. Shortly after this accident the spermatic vein began to enlarge, and soon formed a considerable tumour, extending from the testis upward to the abdominal ring. The tumour continued rather to increase in size until June 1822, when he came to this city for surgical aid, and placed himself under the care of a respectable physician. The man stated, that his disease had been troublesome, and at times distressing; that often, for several days in succession, it had been so painful as to prevent him from pursuing his daily occupation, and said, if nothing short of the extirpation of the testis would give him relief, he was ready and willing to have that operation performed.

The physician, after making an ineffectual trial of the ordinary means, requested me to see his patient, and proposed an operation, expressing his opinion that the one practised by Mr. Bell, of tying the vein, would probably prove effectual. I suggested the propriety of tying, not only the vein, but the spermatic artery also, which might afford a better chance of removing the disease, as it would directly cut off the current of blood, which was constantly flowing in its natural channel into this vein, and which from disease had lost the power of emptying itself; and that the enlarged vein would after this more certainly contract, and its calibre become destroyed. That according to the laws which govern the circulation, the artery of the vas deferens would become adequate, together with a collateral circulation from the obturator, perineal, and external pudic arteries which distribute minute branches to the scrotum; and in the adult, through the tunica vaginalis, and communicate with the spermatic artery, a sufficient supply of blood would be furnished for nourishment, and all the purposes of this organ; and which would naturally find its way back through the veins accompanying the ramifications of these arteries. He assented: and at his request I performed it in the following manner.

Drawing aside the coil of veins from the other vessels of the chord, I made an incision, two inches in length, upon the enlarged vein, and separated the convolutions which formed the tumour, three inches and a half in length, which appeared as one trunk. Feeling for the artery, I found it closely in contact with the vein, all the way imbedded in a groove, as it were, of its enlarged dimensions, so that the two vessels appeared only as one large vessel, the artery being perceptible only by its pulsation. I passed two ligatures around both vessels, one near the testis, the other about an inch and a half above, and removed an inch of the intermediate portion. The wound was dressed lightly with lint, and the patient put to bed.

After the operation, the patient never suffered any considerable pain, nor had any unusual sensation in the testis. About the 4th day from the operation a little swelling of the testicle, and a slight oedema of the scrotum was perceptible. It began to subside on the sixth day. The under ligature came away on the 10th day; and the swelling of the testicle was much abated. On the 13th day the upper ligature came away, and on the 14th he walked two miles without inconvenience, and on the 23d the wound was healed. At this time there remained a little enlargement of the epididimys. On the 30th he left the city in good spirits, no traces of the enlarged vein being perceptible in any part of the chord.

This man assured me, on leaving the city, that if his complaint gave him further trouble, he should come to the city again for advice. He has never returned, and his physician here, who has had intelligence from him, assures me that the operation effected a complete cure.

The success of this operation shows that the main artery which conveys blood to the testis may be tied, while the circulation will go on sufficiently for the purpose of vitality and nourishment, and probably for the purpose of secretion. This fact demonstrates the incorrectness of the opinion which some have entertained, that to cut off the supply of blood furnished to the testis by the spermatic artery, would be followed by an absorption of the testicle. This opinion was given to me by a surgeon of high respectability, before the result of the above case was ascertained.

The foregoing operation suggests, as I think, a practicable and useful operation for the cure of some diseases of this organ, by cutting off the main current of blood, and thereby promoting the absorption of morbid enlargements, which might otherwise require extirpation for their cure.

And it appears by recent information, that M. Maunoir, of Geneva, has lately recommended the operation of securing the spermatic artery by *ligature* for the cure of *Sarcocele*, and details two cases of its success, notice of which is taken by Doctor Johnson, in the second volume of his Journal of Medical Science. *

ART. VI. AN ACCOUNT *of the* INFLAMMABLE SPRINGS *in Ontario County, State of New-York, in a letter to the Hon.* STEPHEN VAN RENSSELAER, *Esq. of Albany.* By P. HAYES, M. D. of Canandaigua.

Canandaigua, November 22, 1823.

SIR,

AT the request of Professor Eaton, I propose to give you some account of the springs of inflammable gas in this vicinity.

The most noted of these springs is situated in the town of Bristol, county of Ontario, about nine miles WSW. from Canandaigua, and seventeen or eighteen south of the Erie Canal at Perinton. It is situated in a ravine on the west side of the valley of Mud Creek, which is here called Bristol Hollow. The sides of the ravine, as well as the borders of all the valleys in its vicinity, are formed of shale, which presents the following characters:

Colour, bluish gray; but varying in the different strata, sometimes passing into ash gray; horizontal surface slightly glimmering.

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* See New-York Medical and Physical Journal, Vol. I. p. 123.

Odour, when moistened, bituminous.

Taste, none.

Adheres slightly to the lip and tip of the tongue.

On white paper leaves a brown *trace*, with a slight tinge of red.

Streak, same.

Powder, brown.

Flexibility, slight.

Elasticity, nearly perfect.

A *knife* cuts its with some difficulty.

The *nail* scratches it slightly.

It *scratches* window glass.

It is *brittle*.

Structure slaty. The layers are of various thickness, and adhere together with various force; but the rock may, in general, be split into laminæ from one-eighth to one inch thick. They are considerably undulated, but preserve nearly the same thickness. These laminæ, which are horizontal, are crossed by perpendicular fissures, in various directions, of great extent.

Transverse *fracture*, earthy.

Horizontal *surface*, uneven, undulate, smooth to the touch.

Fragments, tabular.

Specific gravity 2.5.

The powder is not very readily miscible with water, and when mixed with it, leaves a film on the surface. With diluted sulphuric acid, it disengages slowly a few bubbles. Treated firstly with diluted muriatic, and then with strong sulphuric acid, and washed, it leaves a considerable proportion of a black powder, sinking rapidly in water, and having a gritty feel.

Fusible by the blow-pipe.

Crackles in the fire.

The ravine is traversed by a small rivulet, which in summer is nearly dry. Near the termination of the ravine in the valley, the stream approaches the right bank, which is here about twenty feet in height, and eight or ten of it consists of the shale.

From this bank, partly beneath the surface of the water, but principally above it, the gas issues in considerable quantity. When lighted, where it issues from the rock above the level of the surface of the water, it burns with a steady flame. The colour of the flame is deep yellow, scarcely inclining to red, and without any shade of blue. The light and heat evolved are both considerable. The odour is slight, but resembles that of burning pit coal. No smoke is perceptible; but the summit of the flame blackens the contiguous rock.

The following experiments made with this gas seem to prove that it consists principally of a mixture of the light and heavy carburetted hydrogen gases, and that it contains carbonic acid gas, but no sulphuretted hydrogen. Mixed with a small proportion of olifiant gas obtained from alcohol, and inflamed in a proper burner, it forms a brilliant gas light.

Experiments with the Gas.

1st. Into an 8 oz. phial of the gas, caught under water, introduced about 2 oz. water, shook it well, and dropt in about a drachm of a solution of acetas plumbi in distilled water, of the strength of 40 grs. to a pint. Precipitate bluish white, appearing, at first, in striæ. The water of the brook above, and the well water of Canandaigua, gave the same precipitate.

2d. Into an 8 oz. phial of the gas poured about 1 oz. lime-water. The water was rendered turbid, and a film appeared on the surface. On shaking the phial, a copious white precipitate was produced, which effervesced briskly with diluted sulphuric acid, and again deposited a white precipitate. The lime water gave no precipitate with the water of the brook.

In this experiment, before shaking the phial, a colourless film, containing particles of the precipitate, extended up the sides of the phial, rising and falling with the water. Was this owing to bituminous matter dissolved in the gas?

There are said to be a number of other places along the ravine, (the bottom of which is nearly level,) to the distance of 80 rods, where smaller streams of the gas issue.

In the town of Middlesex, on the south-eastern side of a valley, called Federal Hollow, one mile from Rushville, and about 21 from the canal at Palmyra, is another locality much more remarkable. For a space extending along the valley, from northeast to southwest, more than half a mile, and in some places, more than a quarter in breadth, numerous springs of inflammable gas have appeared. In a field near the north-eastern extremity of this tract, and at an elevation of 40 or 50 feet from the bottom of the valley, numerous hillocks may be seen, of a few inches in height, and from 2 or 3 to 10 or 12 feet in diameter. They consist of a black mould, and are destitute of vegetation: from these the gas issues; and on digging into the earth beneath, may be obtained in considerable streams. These hillocks have appeared successively, within a period of seven or eight years, although the ground has been cleared much longer. The first indication of their formation, is the disappearance of vegetation at a particular point; this is enlarged, the mould accumulates, and the hillock is gradually formed. In very cold weather, the gas is said to issue from the tops of hollow cylinders of ice, sometimes 2 or 3 feet in height, forming, when lighted in a still evening, a beautiful illumination.

In this field an excavation has been made 10 or 12 feet in depth; but not having reached the rock, no discovery was made. At the south-western extremity, on a level with the bottom of the valley, another excavation was made some years since, of about the same depth, penetrating the rock, which, from the remains of what was thrown out, appears to be the same as that found in Bristol. In making this excavation, I am informed that coal was found; but I have not been able to obtain further particulars. Specimens of coal have also been found on a hill about two miles northeast of the spring in Bristol, at a considerable elevation above the valley of Mud Creek. Not having examined this locality, I subjoin the following account of it, published in the Ontario Repository, of September, 1822.

"Major Simmons of Bristol, has, within a few days, opened a small shaft near the summit of a hill on his farm, but a few miles from Canandaigua lake. After passing about five feet through a stratum of very fissile clay slate, he struck a layer of bituminous shale, below which, at the depth of six feet from the surface, he discovered a stratum of clean coal, four lines in thickness. This is *black* or *slate* coal, is highly bituminous, kindles readily, and burns with a copious dense flame. On comparison, it is no way inferior to the Ohio or Pittsburgh coal; and although its specific gravity is a little higher, (being 1.31) it does not leave more than 5 1-2 per cent of ashes. It is to be regretted that the difficulty and expense of exploring this range of slate country, will be somewhat increased by the position of its strata, there being a dip of but 15 minutes to the west; yet from the character of the country, and from the success of this small investigation, there can be no doubt of the abundance of first-rate coal in all the slate hills of Canandaigua and Bristol."

The brook, which runs through Federal Hollow, in a south-eastern course, empties into the southern extremity of Canandaigua lake. About two miles below the lowest excavation, it becomes a dead level, and continues so to the lake seven or eight miles further. From the northern extremity of the lake to the canal, is a distance of about twelve miles. According to a survey made in 1820, the lake may be connected with the Erie canal by a lateral canal of nineteen and a half miles in length, with twenty-three locks, the descent being 225 feet. At the present moment, an investigation is making preparatory to an attempt to carry this plan into execution.

I have been informed, on very good authority, that a thin stratum of coal has been discovered in one of the rivers near Genesee river, in Groveland, Livingston county.

From the hills of Graywacke slate, which, in this vicinity, commence from twenty to thirty miles south of the canal, to lake Ontario, I have observed the shale formation in various places. It borders all the valleys which issue to the northward from between those hills, and seems to constitute, almost exclusively, the hills of more moderate elevation which stretch further to the north. It appears to be the same formation which is observable on the south-eastern shore of lake Erie. In many places I have observed it to be covered with limestone, or to alternate with it.

With sentiments of the highest respect,
I am, Sir, your obedient
and humble servant,
P. HAYES.

To the Hon. STEPHEN VAN RENSSELAER.

ART. VII. ON *the use of the* VITRIOLIC EMETICS, *in the Treatment of* CYNANCHE TRACHEALIS. By JOHN W. FRANCIS, M. D. Professor of Obstetrics, and the Diseases of Women and Children.

ALTHOUGH the disease most generally designated among modern physicians, by the name of Cynanche Trachealis, has been the subject of elaborate investigation, there still remain several circumstances concerning it, upon which a satisfactory opinion has not yet been obtained. I am persuaded that croup prevailed, and was known prior to the year 1765, when Dr. Home first called the attention of practitioners to the complaint. The quotations from Ghis, as found in the Institutiones of Burserius; certain passages in the Sepulchretum of Bonetus, and the paper on the Morbus Strangulatorius, by Dr. Starr, in the London Philosophical Transactions of 1750, are among the evidences upon which this belief is founded. According to Ghis, it prevailed very generally at Cremona in 1747 and 1748, and though it severely attacked infants and children, adults were not wholly exempt from it. The last of the cases recorded by Dr. Starr, of the disorder which affected the children of Cornwall, in England, in 1749, is evidently a decided instance of cynanche trachealis: some of his preceding observations would seem to apply to a mixed form of the disease, such as has been noticed by more recent authors.

Ample as pathological observation has been, we need further facts to determine the peculiar nature of the inflammation producing croup; and it still remains a debated question.

whether we are justified in attempting to establish the distinction, so pertinaciously maintained by some, of inflammatory and spasmodic croup. As an universal law, inflammation itself, varies in its effects according to the structure and sensibility of parts. The safety of the patient is, in my opinion, best consulted by considering croup as essentially an inflammatory affection, with spasm as almost invariably a coincident symptom. It is in no degree inconsistent with this view of the subject, that croup in different patients, and at different stages, occasionally manifests the predominance of the one or the other of the characters of inflammation or of spasm.

One can easily pardon the views advanced by Underwood, and some other English writers, concerning the nature and treatment of croup, if it is considered that their opinions were promulgated at a time when our pathology of this interesting disease was founded on very limited data. Our clemency is put to a severer test, when we find such sentiments as the following espoused by Dr. Wilson, who is convinced, from a careful attention to the phenomena of croup, "that the primary seat of irritation is in the digestive organs, whence is generated by morbid sympathy, a spasmodic affection of the glottis, ending in inflammation of the mucous membrane of the larynx and trachea, ultimately destroying the action of the lungs, by rendering them impervious."!!

Cheyne, in his Essay on Cynanche Trachealis, considers "an effusion which becomes a tubular membrane lining the inflamed surface," an essential part of his definition of this disorder; and Baillie, in his Morbid Anatomy, states that in croup an adventitious membrane is always formed. I cannot but consider the formation of the membrane as an accidental occurrence in the progress of the disorder; and, in fact, Dr. Cheyne, in a subsequent work,* contradicts his former assertion. Timely and active remedies will generally arrest the formation of the lining membrane, even in cases the most purely inflammatory, and those instances in which more of spasm than of inflammation seems to exists, the membrane is perhaps seldom formed at all. I have observed extensive inflammation of the trachea, without the production of the membranous formation, and with scarcely any effusion of either pus or mucus.

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* Pathology of the Membrane of the Larynx and Bronchia. Edin. 1809.

In other instances the lining membrane is not limited to the trachea, but extends itself to the bronchiæ. Ghis and Michaelis, as well as other early writers, furnish us with cases of this sort: In his valuable paper on Croup, Professor Hosack has given a view of a morbid preparation, in the possession of Dr. Post of the University of New-York, in which this consequence of the disease is happily illustrated.* In other cases again, the disorder has deeply affected the substance of the lungs.†

Cynanche trachealis may occur during the progress of other diseases. Rollo, Ferriar, Rush, Hosack, and other clinical observers, corroborate this truth. I have myself seen two cases where croup supervened during the existence of cynanche maligna; and in the fall of 1822, attended a young man in this city, whose convalescence from an attack of the yellow fever of that year, was protracted by an affection similar to croup, which occurred about the tenth day of his illness. With regard to the disease described by a late eminent American writer, Dr. Samuel Bard, under the name of angina suffocativa, from a careful examination, I am inclined to coincide in the opinion advanced by Dr. Beck, that it was not idiopathic croup, but the cynanche maligna of nosologists, and that the features of croup, which at times appeared, were the occasional consequence of the primary disorder of the throat extending to the trachea and lungs.‡

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* American Med. and Philosophical Register, vol. II.

† See Cheyne, and other late writers.

‡ See an inquiry into the nature, cause, and cure of the Angina Suffocativa, or sore throat distemper, as it is commonly called by the inhabitants of this city and colony. By Samuel Bard, M. D. Professor, &c. New-York. 1771. Also an Historical Review of some of the earlier American writers on Croup, by John B. Beck, M. D. in New-York Medical and Physical Journal, vol. II.

I have seen cynanche trachealis affect infants within their first year; and we have the best authority for asserting, that it sometimes makes violent seizure on adults. For obvious reasons, the complaint is not so fatal with this last class of subjects. Within a few days, I have seen the more prominent symptoms of croup accompany a case of cynanche laryngea, in a male patient aged about thirty years. Sir James M'Gregor, in his report of the diseases at Bombay, states, that in several of the instances of croup which occurred, the patients were adults.

In this paper I have not intended a treatise on croup, but to call the attention of practitioners to a method of treatment which I found successful in three cases of this disease, where the existence of the membrane rendered the situation of the patients eminently critical. It is universally conceded that our means of relief, in cynanche trachealis, are to be urged during the forming and febrile stages of the disorder; and to American physicians must be awarded the merit of having pointed out the curative indications to attain this desirable object. To the late Dr. Bayley* of this city are we especially indebted, for the introduction of venesection to an extent at once bold and efficient, in order to counteract the inflammatory character of croup, and that too amid the conflicting jealousies and temporizing expedients of rival prescribers Yet I am not fully prepared to advocate the detraction of blood *ad deliquium animi*, in those cases where the patient's life is jeopardized by reason of the membranous formation. Of the use of other auxiliary remedies, as antimonials, blisters, purgatives, &c. I shall forbear any recommendation at present.

In that almost hopeless state of croup which is induced by effusion at the later period of the complaint, the means of relief resorted to by practitioners are equally numerous and uncertain. Calomel, the polygela seneka, and the lobelia inflata, are perhaps among the foremost of the articles that have been extolled with the greatest confidence. There are many reasons that might be urged in behalf of the employment of calomel, even in large and repeated doses, the blood-vessels having been relieved by previous venesection. After the existence of the membrane, and when the powers of life are on the wane, it is a judicious, and sometimes an available resource; and in the cases, indeed, in which I have found the vitriolic emetics successful, their agency has probably been favoured by that potent mercurial.

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* Letter to William Hunter, M. D. of London.

CASE I.

In the autumn of 1813 I was called to a case of cynanche trachealis, represented to be formidable and immediately threatening the life of the sufferer. The patient was a female child about two years of age. Through neglect, the disease had uninterruptedly run its course, now at the close of the second day's duration, and had advanced to what may be termed the third or membranous stage of croup. The child has been subjected to the action of one or two cathartic powders, and some other slight means of relief. Its laboured respiration, livid countenance, cold extremities, and great prostration, seemed the harbingers of its immediate death. Its efforts during respiration were evidence of the membranous formation, and every moment seemed to render its situation more alarming. The period for emetics and blood-letting had gone by. I suggested to the afflicted mother that little or no hope could be reasonably entertained of its recovery; but that the remedy to be employed might possibly suspend its sudden dissolution. In this opinion I received the countenance of the late president Dr. Samuel Bard, whom I requested to witness the case. I prepared a strong solution of the sulphate of zinc, about two drachms to an ounce of water, and administered it to the amount of a large teaspoonful every twenty minutes. This dose was repeated from four in the afternoon until about six o'clock. In the meanwhile the body of the child was several times immersed in a warm bath, made the more stimulating by the addition of a little rum and aqua ammoniæ; a blister was applied to its chest, and a stimulating enema given. After about three hours the little sufferer seemed to revive, and exhibited less anxiety; its exertions in respiration, however, were shortly again no less painful; its voice croaking, and its face tumid. Finding no emetic action from the white vitriol, I substituted a solution of the sulphate of copper in the same proportion. The medicine was but twice repeated when a part of the membrane was detached and thrown up. I then again resorted to the white vitriol, and the child dislodged a large quantity of a similar membranous material. Within about twenty-four hours the situation of the child was wholly changed; its breathing became gradually more natural, and we considered it as rescued by the vitriols. By stimulating liniments and bland nutritious aliment the patient was completely restored.

CASE II.

In this second case the membranous stage had formed in a male child about three years old. According to the mother's account, the patient had suffered several days from the effects of cold upon the trachea and lungs. The ordinary means of relief had accomplished their wonted results; but the child was permitted, as previously, to be exposed to the vicissitudes of the winter weather. It was ten o'clock on an evening in January 1822, that I was first requested to see it. The parents stated that for nearly two days it had suffered in this attack, and that its symptoms had within a few hours become greatly aggravated. I found it to have the wheezing, hoarse sound of croup in respiration, little fever, and to be seemingly much exhausted. It frequently started from its recumbent posture to relieve its oppression, and its carotid arteries throbbed with much violence. I recommended a stimulating enema, and the warm bath. The friends of the child solicited that it might not be bled, as it was too much prostrated. I nevertheless urged the propriety of taking two or three ounces of blood from the arm. A blister was applied to the throat, a stimulating embrocation to the chest, and an active mercurial cathartic administered.

Three hours after my first visit I received a message no longer to attend the patient, as all hopes of recovery had been abandoned, and the parents were reconciled to their unfortunate lot. I however again called to see the child between the hours of one and two at night, and gave it the usual combination of tartar emetic and ipecacuanha, but without any effect. At this advanced period of the disease its breathing became still more alarming, its countenance ghastly, and its convulsive respiration threatened immediate dissolution. With much persuasion its parents yielded to the request that one more effort might be made to rescue it. A solution of the white vitriol was had recourse to, composed of a drachm of the sulphate of zinc to an ounce of water: three large teaspoonsful were given at intervals of ten minutes. After waiting about twenty minutes from the time the last dose was taken, the efforts of vomiting were renewed, a large portion of membranous matter was thrown off, and I considered the child as perfectly secure in the morning.

Two days after the child was playing in the room, and I discontinued my attendance.

CASE III.

Under such circumstances as must always accompany the membranous stage of hives, the vitriolic solution was also given in the third case. The patient was about twenty months old, and had laboured for several hours under the spasmodic breathing, attendant upon the last stage of cynanche trachealis. Calomel, in repeated and large doses, and the antimonial solution, had been freely administered, and blisters and the warm bath employed, without any special salutary consequences. Coldness of the extremities, and the convulsive efforts at respiration, seemed sufficiently indicative of the approach of death. I had witnessed, several years before, the loss of a robust child under these circumstances, in the attempt to diminish the struggles of breathing, by blood-letting. The collapse was too sudden and too great to be counteracted by stimuli. The vitriolic solution was therefore urged, in this third case, with the more confidence, and I could attribute the escape of the patient, alone to the salutary action of this prescription.

Dr. Hosack has given the leading facts of these three cases in his additional observations on Croup, contained in the second volume of his Medical Essays, just published.

Before concluding this paper it may be proper to observe, that the vitriolic emetics may be given with more safety, and to a greater extent than is generally supposed. I wish to except from this remark, that condition of the patient which arises from inflammation, and a consequent spasmodic action of the larynx. I dare not say that in such a state they can be confidently recommended. In the membranous state of cynanche trachealis, I believe they will often prove the salvation of the sufferer, when all other of our approved remedies fail. I have repeatedly seen too much timidity in prescribers with this article of the materia medica, in different diseases in which it was strongly indicated. In a case of poisoning by laudanum, in addition to the ordinary measures of relief, I successfully administered the solution of the white vitriol, one drachm to half an ounce of water, in divided doses, at intervals of ten minutes, to an infant of six months old, to whom the nurse had given the thebaic tincture instead of the paregoric elixir. In several instances of adult subjects, where laudanum had been intentionally taken with purposes of self-destruction, I have found the white vitriolic solution, to the extent of half an ounce of the zinc, in divided portions, taken within forty minutes, fulfil the indications.

In another instance, where three ounces of the alcoholic tincture of opium had been taken and had been retained two hours, with great exertion I poured down, within an hour, one ounce of the sulphate of zinc in a pint solution, in three equally divided portions. The patient was allowed the free use of water during its action, and recovered without any detriment, either to his general health or digestive organs.

Art. VIII. Case *of* Wounded Nerve, *cured by freely didiving it.* By T. Nelson, M.D. of Hyde-Park, New-York.

Miss N—— W——, some time in April last, being a little indisposed, was induced to be bled. The physician who was called, for some reason not very obvious, (as both the median cephalic and basilic veins were well situated for bleeding,) opened one of the subcutaneous veins on the external part of the fore-arm, just below the elbow. At the moment the orifice was made, the patient felt a very acute pain; she had frequently been bled, but at no previous time did she experience pain equal to this. The arm continued painful, accompanied with an inability to elevate it; at length becoming alarmed, she applied to the person who bled her for relief: he directed her to apply a wash, and bandage the arm lightly from the hand to the shoulder. This treatment was continued twelve or fourteen days without any benefit, but rather an aggravation of the symptoms, as the arm began to swell immediately after the application of the bandage, and the pain also much increased. The patient becoming more alarmed, applied to another physician, who employed frictions of vol. linament and laudanum; this course was continued some time without any benefit; the pain still increased, although the tumefaction diminished; there would, however, be intervals of almost perfect absence of pain, these were generally in the forepart of the day. The paroxysms of pain becoming more violent, a large blister was applied to the arm and shoulder; this gave some relief during the time it was drawing; but as the action of the blister subsided, the pain returned with increased severity. This treatment producing no permanent relief, cold affusion, or showering the arm with cold water, was next resorted to, and continued till about the first of August, but with no better success than the former remedies. About the 20th July I first saw the patient. At this time the arm had a perfectly natural appearance; no tumefaction or discoloration was present, except a small spot where the orifice was made. As there did not exist a doubt in my mind respecting the nature of the affection, I recommended dividing the nerve, as the only probable prospect of obtaining permanent relief. The patient was quite averse to any thing of this kind; she concluded to continue the showering and consult her attending physician, and others, respecting the propriety of an operation.

August 3d. The patient came and took board near us, determined to have something done: her sufferings were now more severe than at any other former period. In the forepart of the day, she would be comparatively comfortable, but about 4 o'clock, P. M. the pain would begin to increase, commencing at the place of the puncture, and following the course of the nerves to their origin in the spinal marrow; becoming more and more severe, it would pass over to the corresponding nerves of the opposite arm, accompanied with spasmodic action of the muscles and tendons of both arms; the patient, during these paroxysms, suffered the most excruciating agonies; the pain proceeding to the stomach, produced the most distressing sensations, approaching nearly to syncope; no position or remedies, afforded any relief. Frictions of tinct. opii, warm fomentations, &c. &c., were employed; and tinct. opii given internally to the extent of four hundred drops in three hours, but were unavailing. The pain would continue till 3 or 4 o'clock in the morning, then abating, leave the patient extremely fatigued and exhausted. Her general health became much impaired, and the stomach and digestive organs so much deranged, that it was necessary to put her on the use of tonics, as wine, Huxham's tincture of bark, &c.

August 6. The sufferings of the patient having been so extremely severe for the three past nights, she felt willing to submit to any thing that afforded a prospect of cure. Dr. J. M. Pendleton (who was at that time in the neighbourhood) was consulted; he fully concurred with us in the opinion we had expressed respecting the treatment proper to be pursued. Accordingly, with a common scalpel, a free transverse incision was made, one quarter of an inch above the puncture.

about two inches in length down to the fascia of the muscles, to secure the division of the wounded nerve.

The *extreme pain* at the moment of the incision, together with a *numbness* of the lower part of the fore-arm, convinced us that the nerve was divided.

The lips of the wound were separated, and the wound filled with lint, to prevent union by the first intention. The arm continued painful after the operation, but much less than before; in the forenoon it would, at times, be entirely free from pain, but at the accustomed hour in the afternoon, the pain would return, perhaps in some degree influenced by habit, as the patient had now been afflicted with these paroxysms of pain for four months. The pain became daily less severe with some variation.

August 30. Arm perfectly free from pain; wound filled with granulations and cicatrized; a little stiffness and weakness remained in the arm, which gradually wore off by exercise, as the patient's general health improved.

The facts stated in the above case, afford conclusive evidence of the inadequateness of medicines to the cure of wounded nerve, and point to an immediate and free division of the nerve affected, as the only prospect of effecting a speedy and permanent cure.

ART. IX. A CASE of HÆMOPTYSIS, *alternating with a Discharge of blood from the Uterus.* By JOHN W. GLONINGER, M. D. of Lebanon, Penn.

ON the 11th Jan. 1824, I was requested to visit Catharine B——, an unmarried female, aged about 26 years, of small stature and sanguineous temperament, who had a short time previously to my seeing her, been seized with hæmoptysis, of which she had within the last five months, three attacks. Having in her former attacks, succeeded in arresting the hemorrhage by the use of muriate of soda, which had been recommended to her by the physician that then attended her, she was induced, before my arrival at the place of her residence, to resort to it in this, and had taken several doses, which however proved ineffectual.

As the hemorrhage was profuse, her pulse full, strong and rather tense, and as her habit was plethoric, I abstracted about sixteen ounces of blood, and prescribed every two hours a pill composed of two grains of acetas plumbi and one half grain of opium, which, together with the epispastic I applied to the chest, entirely checked the effusion of blood from the lungs in a few hours, but soon after a vicarious discharge of blood took place from the uterus; this during my absence, having been called to another patient, became alarmingly profuse, and I was in haste sent for. Upon my arrival, finding her strength much exhausted, her pulse small, weak, and intermitting, her breathing somewhat difficult, and her extremities cold; I directed a continuance of the pills, applied a jug of warm water to the feet, and immediately had recourse to the *tampon;* a mean in uterine hemorrhage unfortunately too much neglected by some practitioners from a groundless supposition of its occasioning concealed hemorrhage.

It may not be considered as irrelevant, or out of place, here to remark, that she always had been regularly visited by the catamenial secretion: she had a visitation of it ten days prior to her present indisposition, and never had been subject to hemorrhoids; consequently the pulmonary hemorrhage could not have been, in this case, occasioned by a suppression of the menstrual or hemorrhoidal discharge.

The following morning I was informed that the uterine hemorrhagy had ceased, that during the night the tampon was removed, and that soon after the hæmoptoe returned, but had subsided after taking a few of the pills of acetate of lead. In order to obviate any ill effect that might arise from the use of saccharum saturni, I now ordered some oleum ricini. Since then, she has had no discharge of blood, and now enjoys her wonted health.

ART. X. OBSERVATIONS *on the* VARIOLOID DISEASE. By J. SMYTH ROGERS, M. D. of New-York.

To the Editors of the New-York Medical and Physical Journal.

New-York, March 16th, 1824.

GENTLEMEN,

As the questions which are in agitation, relative to the epidemic now prevalent among us, involve matters of incalculable interest to our fellow-beings, it becomes the solemn duty of every physician to lend his assistance in eliciting such facts as shall exhibit the value of Dr. Jenner's discovery in its true light. Should it appear that vaccination is capable of disarming small-pox of its virulence, or of controlling its power, it is of the highest importance that every one should be induced to improve the opportunity of enjoying so great a blessing; but if it prove *unworthy* the confidence hitherto reposed in it, it is equally important that our fellow-citizens should be guarded against the fatal consequences of trusting to that which "has no power to save." I am aware that these subjects are in a train of investigation, under the auspices of two of our most respectable medical associations; but as circumstances render it uncertain how long a time may elapse before we are in possession of the result of their inquiries, and as, in the interim, the enemies of vaccination are striving to shake the public confidence in the antivariolous powers of kine-pock inoculation, it appears desirable, that any striking occurrences which tend to show that there is no reason for a diminished trust in that operation, should be made known. I have, therefore, made a brief sketch of a few of the most interesting cases which have presented themselves to me within the last three months: should they appear to you sufficiently important to be made public, I shall be obliged by their insertion in your valuable Journal. Before noticing these, however, I must beg leave to give the minutes of some cases which have been repeatedly referred to, as cases of *small-pox after vaccination:* with what propriety they are so called, will appear from the course of symptoms which I have given in detail, as noted down from the mouths of the parents. It may be proper to state that these patients were not under my care: my inquiries into the particulars of their cases, were made, in consequence of an invitation given by a gentleman, at a late meeting of the County Medical Society, to all persons interested in the subject of vaccination, "to call and examine for themselves."

I am, gentlemen,
Your obedient serv't.
J. SMYTH ROGERS.

Drs. Francis and Beck.

On Friday 5th of February, Ann H—, aged 5 years, was attacked by febrile symptoms, with pain in the back, limbs, and head, sore throat, &c. *She had never been protected, either by inoculation or vaccination.* On Tuesday 10th, a pretty extensive papular eruption appeared about the face, limbs, and body, followed by an alleviation of her pains; the eruption advanced gradually to maturation; showed some tendency to pit on the 9th day, and on the 12th, began to dry; crusts were formed, which falling off, left numerous little pits, or depressions in the skin.

On the 15th of February, Lucretia H—, aged 9 years, and on the 16th, Frances, aged 11, began to complain of symptoms similar to those of Ann. These children were both vaccinated in infancy. Lucretia has a distinct scar on the arm; that of Frances is not so deeply marked. They both had considerable fever; pain in the back, head, &c. On the 3d day a scattered papular eruption appeared on the face, arms, and back of Frances; it continued apparent for four days, and *then receded*, leaving no mark to designate the place it had occupied. In Lucretia, a papular eruption appeared on the 4th day; it gradually filled with a *watery fluid;* the vesicles *burst on the 3d or 4th day*, (the mother does not distinctly recollect which,) discharged their contents, and dried, leaving behind them red marks, but without any elevation of the surface. These marks have now (March 16th) entirely disappeared.

On the 22d of February, 16 days after the first child's attack, and the 12th day after the appearance of her eruption, the eldest sister, Mary Ann, aged 19, began to complain: on the 3d day an eruption appeared; the papulæ, though scattered, were pretty numerous on the face and arms, few only appearing on the body; the eruption became pustular, and on the 9th day began to change; there are *no depressions* to be found where the pustules appeared, but there were in their place *tubercular elevations* of a reddish hue; these tubercles are now (16th March, 20th day) gradually disappearing. This patient was vaccinated in infancy, and bears a regular scar upon her arm.

On the morning of the 24th February, Margaretta, aged 13, became unwell, and on the afternoon of the same day, Elizabeth, a twin sister, also began to complain. In these cases, vaccination was performed in infancy: Elizabeth has two scars on her arm, Margaretta only one. Margaretta's eruption appeared on the 3d day, became pustulous, and began to dry on the 7th; Elizabeth's also appeared on the 3d day, suppurated and began to dry on the 6th. No pits are left by the pustules, but *tubercular elevations*, similar to those of the elder sister, were remaining on the 12th day of the eruption. They are now (March 16th) gradually disappearing.

The next child who sickened, was Gabriel, aged 7 years: *attempts* had been made to vaccinate him, but the mother states that *they had not been effectual*, and that his physician had declared it necessary to re-vaccinate; this however was not done, and there is no mark to be discovered on the arm. This child became indisposed on the 25th of February; on the second night he was delirious, and continued so at intervals for two days; on the 5th day an eruption appeared, previous to which he was threatened with convulsions. The eruption was very general; it began to dry on the 10th day, but the change was scarcely perceptible until the 11th day; his face on the 14th day was nearly covered with a crust; where this had fallen off, there were discoverable numerous little pits or depressions in the skin. The pits are now (March 16th) very distinct: he will bear decided marks of the disease.

William, the eldest son, aged 16, and Ellen, the second daughter, aged 17, sickened the same evening with the preceding: they were both vaccinated in infancy and bear marks on their arms. The eruption made its appearance on the 3d day and began to decline, in Ellen's case, on the 6th, and in William's on the 8th day, leaving the same *tubercular elevations* which were noticed in some of the preceding cases; but no pits. These patients were both severely sick, the boy more so than his sister, his eruption being very copious.

The tenth and last case was that of Emily, the youngest child, aged two and a half years. Her febrile attack commenced on the 27th of February; on the 29th the mother noticed a general efflorescence, and on the 1st of March the eruption appeared, gradually filled, suppurated, and began to decline on the 8th day: it left the face covered with a crust. The crust has now (March 16th) fallen off, and there are numerous little depressions, both on the face and arms, marking the situation of the pustules; these however will not leave permanent marks.

These patients have all occupied the same chamber during their sickness, and at one period of their indisposition, the ten children slept together in the room, their mother who nursed them, being a co-occupant with them. She stated that she had found them to complain of chilliness when the air was admitted; she therefore kept them warm through the course of their disorder. Indeed, at my first call, I found the heat of the room oppressive: it was occasioned by a close stove, and near this two of the children were lying, on soft beds, covered by one or more blankets. These patients have all gone through chicken-pox and meazles, except the youngest child Emily, who has never had the latter disease. This child was just recovering from *varicella*, when Ann was attacked with the disease which has gone through the family.

With regard to the peculiar fœtor, which is considered by some as characteristic of small-pox, I would remark, that the mother found it so oppressive in the case of the youngest boy, Gabriel, as to render her temporarily sick. I found it at my first visit very evident in the case of both this boy and the youngest child, who were then for the most part confined to their beds. The other unprotected child, Ann, I did not see until she had been long convalescent.

The preceding account, as I have already remarked, was noted down from the mouths of the parents; it has since been carefully read over to the mother, the father being absent, and by her acknowledged to be correct.

I would now make a few very brief remarks on the above report.

In the first place then, the cases of Ann, Gabriel, and Emily are, unquestionably, not adducible as instances of *small-pox after vaccination*, as no effort had ever been used to protect the two youngest in any manner from variola; and the third, though attempts had been made to vaccinate, was pronounced not secured by the physician who attended him.

Secondly, the cases of Frances and Lucretia will scarcely be brought forward as *small-pox;* the first having only a papular eruption, which receded after the 4th day, leaving no trace of its previous existence; and the second having a vesicular disease, which discharged itself on the 3d or 4th day, leaving for a short time red spots on the skin, which eventually disappeared entirely.

With respect to the cases of the remaining five children, viz. Mary Ann, Margaretta, Elizabeth, William, and Ellen, there is more room for discussion; but *even these*, if fairly viewed, will hardly be called *genuine small-pox*, by those who are most doubtful of the benefit of vaccination. The eruption, in the cases of Elizabeth and Ellen, began to change on the 6th day; in that of Margaretta on the 7th; in that of William on the 8th; and in that of Mary Ann on the 9th day. In small-pox the pustules are *not at their height* until the 11th day. In small-pox, crusts are formed, which begin to fall off about the 14th or 15th day, and leave, in milder forms of the disease, *red spots* on the skin, which after some time disappear;

in more severe instances, permanent *pits* or *depressions*. In these cases, the eruption, on its recession, left *tubercular elevations* of the surface, which gradually contracted in size, and finally disappeared.

Other marks of distinction between the disease of these patients and the small-pox as it occurs in unvaccinated persons, might be pointed out: the above, however, are sufficient for my purpose, which was, to show that some of the cases which are brought forward as evidences of the inutility of the kine-pock, fail in establishing the point for which they are adduced: proof is wanting that they *are* small-pox. If the same examination into the other reputed instances of the failure of vaccination were instituted, I have no doubt it would be attended with a similar result. My remaining cases tend to prove the affirmative of the question, Is vaccination a preventive of small-pox?

In the early part of January I was called by Mrs. K. a respectable widow, to visit her son, who had been sick six days. I found him labouring under small-pox: it was the second day of the eruption; the pustules were numerous, but distinct, and the disease not very severe; the eruption went through its regular course, and the patient recovered, bearing but few marks of the disorder. At the time of my first visit I found four younger children in the room with her, two of whom occasionally slept on his bed. Neither of these children had been protected, I therefore immediately vaccinated them. By further inquiry I ascertained that there were three other children in the same house, who were in the habit of passing a considerable portion of every day in the room with the sick boy: these, I was from particular circumstances unable to vaccinate until the second day after the others. About a fortnight after the appearance of the small-pox eruption in the boy, one of the two younger children whom I had vaccinated, was attacked with febrile symptoms, followed by an eruption of papulæ, which gradually suppurated and dried away, leaving *tubercular elevations* to mark their situation. The pustules in this case were between forty and fifty in number. About twenty-four hours after this child was attacked, the two eldest of the four began to complain; they were affected with pain in the head and back, nausea, &c. but their fever was not severe. About the fourth day an eruption, similar to that of the preceding patient, appeared; in the one case the pustules amounted to about fifty, in the other they did not exceed a dozen. Soon after these children sickened, the eldest sister, who was engaged in nursing them, and who had been vaccinated 16 years previously, had an eruption of *three* pustules, precisely like those of the other patients; and the second sister, who was vaccinated seven years before, had a similar eruption of *six* or *seven* pustules: in the first of these instances there was no preceding sickness; in the second there was nausea, foulness of tongue, and a slight head-ache, which was removed by an emetic. The youngest of the children vaccinated after the boy's variolous eruption, although constantly on the bed with her sick brother, was free from all indisposition.

Of the three children vaccinated in the adjoining chamber, one had a small attack of fever, with pain in the head, &c. about three weeks after the case of small-pox; the febrile symptoms subsided about the fourth day, but *no eruption appeared*. The second child was attacked at the same time, though less severely, with fever; about the third evening an *efflorescence* was visible on the face, limbs, and part of the body; it receded in the course of the night, and the child recovered. The third patient was not at all unwell.

On the 1st February, three weeks after my visit to the first sick child, I was called to J. M. a relative of the family, who became a boarder with them, during the sickness of some of the children. I found him labouring under fever, sore throat, pain in back, limbs, &c.; about the fourth day an eruption showed itself; it suppurated, and drying away, left the same *elevations* on the skin, which had been noticed in several preceding cases. This patient had a pretty general eruption, but his indisposition was not such as to confine him to his bed after the first day.

A few days previous to visiting this patient, I was called to Messrs. J—, L—, and K—, three gentlemen who resided together, and who had been exposed at the same time to a varioloid disease, and subsequently to confluent small-pox. They were all simultaneously affected with the symptoms which precede the eruptive disease we are noticing: on the fourth day a minute papulous eruption showed itself on the face and breast of Mr. K—, and was followed by an alleviation of his fever; very few of the papulæ suppurated; on the seventh or eighth day they receded. The fever of the other two patients abated about the same time with that of the preceding case, but no eruption could be discerned. From these patients I learned that several of their fellow-boarders had been exposed, in common with them, to a case of eruptive disease, occurring in a protected person; all of them save *two*, had been previously vaccinated; of these two, one was *unprotected;* the other had been protected, but could not say decidedly, whether by kine-pock or small-pox. Four of these gentlemen were not in any degree unwell: the one who was *unprotected* was seized by small-pox, which became confluent and proved fatal; while the others had an eruption attended by symptoms more or less severe, in some however so slight as scarcely to be regarded. The only additional cases I shall offer, are the two following:

Ann H———, aged 24, was vaccinated at the dispensary in the early part of February. A fortnight after her vaccination she was exposed to small-pox: she was attacked about fourteen days after this exposure with fever, head-ache, &c. which terminated in a moderate papular eruption; her symptoms were not severe, although she confined herself to the bed for three or four days; the eruption suppurated as in the preceding cases: some circumstances prevented my seeing her after she became convalescent, so that I am unable to state the appearance of the marks left by the pustules.

Resident in the same house with this woman was a child aged 10 months: she was also vaccinated at the dispensary, and on the 8th day after the vaccination was exposed at the same time with Ann H——, to the case of small-pox. She was seized with fever within a few hours of Ann's indisposition; a vesicular eruption appeared, *somewhat resembling* the chicken-pox; the vesicles burst, and their situation was designated by red marks, which remained visible for several days.

The inferences I would draw from the preceding cases, taken in connexion with several others of a similar character which have come under my notice; and with the reports given us of the analogous disease which has appeared in Europe at different times, and has been especially noticed in the years 1818–19 et seq. are these :—

1. That vaccination is, in a large proportion of cases, a *perfect* protection against the small-pox.

2. That where the kine-pock does not *entirely* overcome the variolous contagion, it so far modifies and controls it, that it is only capable of producing a comparatively mild disease, of shorter duration than genuine small-pox, and very rarely proving fatal. Of the cases which have presented themselves to my observation, there has not been one that I have considered alarming.

3. From the reports of the disease as occurring in Great Britain some years since, it would appear, that the kine-pock has the advantage over the small-pox, of rendering the secondary attacks, when they occur, milder in vaccinated than in inoculated persons. So far as my experience goes, it is in accordance with these views : I have, however, only seen two or three cases, in which small-pox occurred after small-pox. In one of these, the disease assumed the coherent form ; in another, it was decidedly confluent, and as severe a case as I have ever witnessed : in this last instance the patient not only remembered the fact of small-pox inoculation, but bore a very regular and distinct scar on her arm.

4. That the disease now prevalent among persons who are protected, is small-pox, modified by previous vaccination or inoculation.

5. That the varioloid, or modified disease, is capable of producing genuine small-pox in the unprotected. This appears from the cases which are recorded in the European periodical

works, and coincides with my experience in the present epidemic. This fact would show the impropriety of the attempts which have been made to introduce the varioloid inoculation. Had some of the gentlemen, who have thus been creating centres from which the small-pox in all its horrors is extended to the unprotected, and who have no doubt been influenced by the hope of arresting, or of rendering still milder the modified disease, consulted the records of former times, they would have found satisfactory evidence of the fact, that inoculation with the matter of the varioloid, is capable, like that of variola, of producing all the forms of disease, from the mildest eruption in protected persons, to the most virulent confluent small-pox.

REVIEW.

Art. I. A Treatise *of the* Materia Medica *and* Therapeutics. By John Eberle, M. D. Editor of the American Medical Recorder, &c. Two vols. pp. 978. Philadelphia. 1822.

It is with much pleasure we find ourselves called upon at this early period to present our readers with the review of a second treatise on the Materia Medica by an American author. Nothing, in our opinion, could furnish stronger evidence of the increasing ardour with which the science of medicine is cultivated by the physicians of this country. And when we consider that but a few years have elapsed since we were indebted to foreign aid for even the rudiments of professional education, we cannot fail to be gratified with the striking and favourable change which has taken place within this short period. We are now supplied, by the labours of our own physicians, with elementary books on every branch of science connected with our profession; and we have no reason to regret any deficiency of learning, or of talent, in our native substitutes. On the Materia Medica, more especially, there has been exerted a degree of industry in the accumulation of original observations on the virtues of medicines in their several applications to disease, which has secured to our productions the highest respect and attention from abroad. Dr. Eberle, in pursuing the steps of his predecessors, has rendered his treatise a valuable depository of all the important facts which have come to the knowledge of the present time; and he has distinguished his compilation no less by his judgment than by his learning. In one respect, more particularly, do we think Dr. Eberle's book a safe and valuable guide to the students of this branch of science: we refer to the view our author takes of the modus operandi of medicines. It is well known that on this subject the medical world has long been divided: some regarding the solids alone as subject to the action of medicines, while others again regard the fluids as principally affected: discarding all exclusive theories upon the subject, a third class combine the views of both, and consider the fluids no less than the solids as susceptible of impressions from medicinal agents. In this number we are happy to class Dr. Eberle; and more especially, as no ingenuity has been spared in the most popular works published in this country, to inculcate doctrines exclusively favouring the views of the solidists.

Before entering upon the proofs of the admission of remediate substances into the circulation, Dr. Eberle makes some pertinent remarks on the general failure which has attended the attempts to discover in the blood substances subjected to the action of the absorbents, and afterwards discovered in the secretions. In an experiment made by Dr. Wollaston, three and a half grains of the prussiate of potass were administered to a person, and repeated thrice at equal intervals for three hours. The urine was found to afford a deep blue at the end of four hours, but no precipitate could be detected in the serum of the blood. This experiment, as is observed by our author, is fallacious in the extreme; because but a small portion of the whole quantity given could have entered the lacteals, and even this must have been so gradually introduced into the circulation, and so immediately again secerned thence by the kidneys, that it is obvious the most minute quantity indeed, at any particular time, could have been present in the blood. Again the very small quantity present must have been diffused through a mass of at least twenty-four pints of fluid. But it appears from the experiments of Professor Macneven that no less than an eighth of a grain to two ounces of serum is requisite to render it capable of detection by the most delicate tests.* No less than ten grains, therefore, must be present in the mass of the circulating fluid before it could be detected. It is scarcely necessary to suggest that in the urine, on the other hand, an equal quantity, gradually accumulated, will become very perceptible; the quantity of urine not only being incomparably smaller, but the substance being much more easy by far of detection in this fluid. Dr. Eberle says he has discovered one-sixteenth of a grain of the prussiate in an ounce of urine.

We must not omit observing likewise that the substances generally used in experiments of this nature are very prone to run off by the kidneys, and thus escape the course of the circulation before they can be submitted to the means of detection. Hence they accumulate in this fluid, where they must necessarily be in a less diluted state than when in the blood. From this too we learn how it happens that substances which may be detected in the thoracic duct, or the abdominal veins, are lost sight of when they reach the general mass of the blood.

The author now proceeds to notice the testimony in favour of the admission of foreign substances into the circulation. Not to repeat experiments which have been alluded to before in this Journal, we shall confine ourselves to those which have not been by us recorded.

Those instituted by Drs. Lawrance and Coates of Philadelphia, are full of interest; and as they have not been noticed by our author to the extent they deserve, we shall briefly state their results. In order to determine the relative absorbing powers of the veins and lymphatics, different substances, principally prussiate of potass and sulphate of iron, were subjected to their action through various channels, such as the alimentary canal, under differing circumstances, the trachea and lungs, the abdominal cavity during life, and the cellular substance. "The general weight of evidence in these cases is strongly in favour of the principal absorption having taken place through the vena portarum." With this result we have not now any immediate concern; but from all the experiments, however affecting the question at issue between the veins and lymphatics, it resulted that the substance introduced, whether by the one system of vessels or the other, was successively detected in the heart and arteries. Thus, where the vena portarum was secured by ligature, the prussiate of potass, introduced through a wound in the upper end of the duodenum, was detected in the heart in one case in thirty-four, in a second in thirty-nine, and a third in thirty-five minutes. Again, where the lymphatic outlets were secured, and the prussiate must have entered the circulation by the branches of the vena portarum, it was detected in the right side of the heart in thirty-two minutes. Thirdly, the lymphatic system being secured, and the vena portæ likewise, injections of prussiate of potass were made down the œsophagus, and in this case the prussiate was likewise carried into the circulation. Hence the experimentalists justly observe, "We conceive we have thus established that articles taken into the stomach may escape by three outlets for absorption; namely, the vena portæ, the œsophageal veins, and the thoracic duct; and if all these are closed, the absorbed matters are no longer conveyed to the circulation or to the urine."* These experiments establish beyond a peradventure the fact which has been so gratuitously and obstinately disputed, that foreign substances do enter the circulation, and that by various and extensive channels. The experiments also of Majendie, not noticed by our author, go to show that foreign substances do actually enter the circulation and produce their specific effect through the medium of the blood. This celebrated physiologist took a dog, and separated the leg from the body, except by the attachment of the crural artery and vein. He then forced into the cellular substance of the separated limb, two grains of a very subtle poison, (upas tienté.) The effects of the poison were as prompt and severe as if the thigh had not been separated from the body. The effects were manifested before the fourth minute, and the animal died before the tenth. The preceding experiment was repeated in a still more striking manner, by completely separating the leg from the body of the animal, and keeping up the vascular communication by quills introduced into the extremities of the divided artery and vein. The result in this case was the same as before, the poison introduced into the foot producing its effects in about four minutes. Our enterprising countrymen before referred to, have repeated these experiments of Majendie with confirmatory results. They employed the nux vomica, and succeeded, in one case without the quills, and in two with them, in producing tetanus and death.

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* New-York Med. and Phys. Journal, No. 2.

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* Philadelphia Journal of Medical and Physical Sciences. Vol. V. p. 337. 8.

In his classification of the articles of the materia medica, Dr. Eberle adopts, as the basis of his arrangement, the one lately proposed by Dr. Granville of London. The primary divisions are founded on the specific tendency of medicines to act upon particular organs, or systems, and under these are distributed the ordinary divisions of *tonics, &c.*

The first general division of this system, consists of "medicines that act specifically on the intestinal canal, or upon morbific matter lodged in it."

Under this are arranged, *Emetics*, *Cathartics*, *Anthelmintics*, and *Antacids.*

The second consists of "medicines whose action is principally directed to the muscular system."

This includes *Tonics* and *Astringents.*

The third embraces "medicines that act specifically on the Uterine system."

Under this are placed *Emmenagogues* and *Abortiva.*

The fourth is "medicines whose action is principally directed upon the Nervous system."

Under this are arranged *Narcotics* and *Antispasmodics.*

The fifth class is "medicines whose action is principally manifested in the Circulatory system."

Stimulants are placed under this class.

The seventh, is "medicines acting specifically upon the organs of secretion."

The subdivisions of this class are *Diaphoretics*, *Epispastics*, *Errhines*, *Emollients*, *Diuretics*, *Antilithics*, and *Sialagogues*.

The eighth, is "medicines that act specifically upon the respiratory organs."

Under this are placed *Expectorants* and *Inhalations*.

The ninth, is "medicines whose action is purely topical."

Escharotics constitute the only subdivision of this class.

This classification possesses undoubted advantages, but is not characterized by that simplicity which so eminently distinguishes the one adopted by Murray. This last is not, we confess, altogether free from objections, but on comparison, we think it will be found the least obnoxious to criticism of any system extant. We shall not, however, dwell on this subject but proceed to consider the first class of medicines, of which our author treats.

Emetics.—Dr. Eberle commences this chapter with some observations on the mechanism of vomiting, and the modus operandi of emetics on the living system. In the discussion of this latter subject, we find some remarks on the influence which emetics exert in reducing accumulated fluids.

Effused fluids, it is well known, are frequently diminished with remarkable rapidity during the operation of emetics. In order to account for this fact, various explanations have been offered. According to Dr. Chapman, there exists an antagonising power between the absorbents and the blood-vessels, by virtue of which the activity of the one set of vessels is indirectly increased by the reduction of action in the other. Thus in the case of emetics, the sanguiferous system being in a state of reduced action, the absorbents acquire a proportionate degree of increased action, and are thus enabled to remove the effused fluids with increased rapidity. Dr. Eberle, however, thinks that this phenomenon admits of a more satisfactory and philosophical explanation.

"When an effused fluid accumulates in the body, it must be owing either to too rapid an exhalation from the arteries or too slow an absorption by the lymphatics. Whichsoever be the case, it is quite certain that if we lessen the action of the exhalent vessels the quantity of the effused fluid must diminish, although the action of the absorbents remain unaltered. It is in this way, therefore, I presume that emetics act when they diminish dropsical accumulations." Vol. I. p. 24.

We are afraid that the maxim of the poet, "in vitium ducit culpæ fuga," has been in the present instance verified by our author. His explanation entirely overlooks the very circumstances which, as it appears to us, was to be explained, namely, the *rapidity* of the removal of the accumulated fluids by the indirect agency of emetics. Now as he admits that a slow absorption is no less a cause of their accumulation than increased exhalation, we do not see how, in the former case at least, a *rapid* absorption shall take place, and yet the action of the absorbents, already too slow, remain unaltered. Besides, as we shall presently see, the view which Dr. Eberle himself, takes of the action of cathartics, tends no little to substantiate the explanation which in this instance he attempts to refute. For emetics not only reduce the action of the heart and arteries through their depressing influence on the brain, but by the evacuation of fluids from the stomach, &c. act in the same manner as cathartics in lessening the quantity of serum in the blood, and thereby indirectly stimulating the absorbents to increased action.

Dr. Eberle next proceeds to notice the extensive application of these remedies in various and important diseases. In typhus and typhus pneumonica they are recommended as frequently arresting the progress of the disorder in the most prompt manner; and in the latter affection, more especially, they are represented as being advantageous in every stage of the disease, promoting expectoration, and restoring the equilibrium of the circulation. Our author thus speaks of their use in *malignant fever :*

"Emetics have also been recommended in the various forms of malignant fever. In the beginning of some fevers of this character, they may occasionally prove beneficial, though, as a general rule of practice, their employment is to be regarded of doubtful efficacy, even in the earlier stages of such fevers; and in the advanced period for the most part injurious." Vol. I. p. 27.

What the several forms of fever are, here referred to under the title of *malignant*, does not appear very clearly. If yellow fever be one, and we doubt it not, we could have wished that the author had been more positive in his denunciation of this class of medicines in this affection.

In cynanche laryngea, which is undoubtedly the most fatal variety of anginose disease, emetics were at one time recommended by Dr. Armstrong, as one of the most effectual means in our power for arresting the progress of the disease. Dr. Eberle accordingly quotes the statement of Dr. A. to show the successful exhibition of these medicines in five cases of this disease. We regret that on a subject of so great importance Dr. Eberle had not stated, that the subsequent and more enlarged experience of this author induced him to consider emetics as adjuvants only, and not as principal remedies, as they would appear to be from the imperfect and incomplete statement here presented to us. To venesection, the most copious and often repeated, the first rank in the list of antagonists to this dreadful affection is undoubtedly due. Without this powerful means of derivation, all other remedies have proved, in by far the majority of recorded cases, wholly inefficient; preceded by it, however, they are powerful, nay frequently, indispensable auxiliaries.

Our author's reasons for administering emetics in hemorrhages from the uterus, deserve consideration.

"Independently of very respectable testimony in favour of the use of emetics in this variety of hemorrhage, we have a good anatomical reason both for the advantages of vomits in menorrhagia, and for their occasional injurious effects in hemoptysis. During the act of vomiting, the abdominal muscles and diaphragm are thrown into a state of violent contraction. The natural consequence of this is a degree of pressure on the abdominal aorta, both where it passes through the crura of the diaphragm, by the contraction of this muscle, and in its course through the abdomen by being compressed in common with the other contents of this cavity. Hence there will be a slight impediment to the passage of the blood to the lower portions of the body, whilst it will be more forcibly driven into the vessels which pass off from the aorta within the thorax. The reason is therefore obvious, why vomiting will sometimes not only increase, but give rise to a hemorrhage from the lungs; whilst on the contrary its effects in menorrhagia, so far as experience has taught us, are not only free from dangerous consequences, but very often of unquestionable service."

Cathartics.—In this chapter our author has embodied a mass of practical information that must be highly satisfactory to students more especially, and far from being unworthy the attention of the more advanced members of the profession. It is impossible for us to follow him through his numerous observations on this important class of medicines; we must content ourselves with noticing the following general remarks on the effects produced by cathartics on the animal economy, independently of the more immediate operation of evacuating the contents of the bowels.

1. They diminish the action of the heart and arteries, and are therefore valuable agents in reducing the system when under the influence of the sthenic diathesis, or attacked by phlogistic diseases. They produce this effect by the abstraction of a large quantity of serous fluids from the exhalent vessels on the surface of the intestines, and thereby diminishing the mass of the circulating fluids.

2. They promote the absorption of fluids from the internal cavities. Diminishing the quantity of serum in the blood-vessels and lowering their tone, they excite, by a law already referred to, an increased action in the absorbent system, by which morbid accumulations in any of the cavities of the body are removed. Dr. Eberle accounts by means of this principle, for the fact noticed by authors on the materia medica, that cathartics frequently increase the effects of diuretics. The author might have added venesection and emetics as frequently instrumental in the production of a similar effect.

3. Cathartics promote biliary secretion, and remove the atony that frequently pervades the portal circulation by "exciting a brisk peristaltic motion of the intestines, whereby the blood which is accumulated, and as it were, stagnated, in the portal circle, is propelled forwards." We quote with our author, the words of Dr. James Johnson, who we may take the

liberty of remarking by the way, has in various passages of his works, taken no little pains to assume to himself the credit of originality for the doctrine, that in the first stages of fever, &c. the blood is *stagnated* in the portal circle. Now without tracing this idea further back, we would refer Dr. Johnson to the admirable treatise of Senac, on Intermittents, in which that author states this doctrine in the most ample manner; and supports the rationale of his remedial operations by means of this very fact, which Dr. Johnson would seem, from his phraseology, to believe that he has been the first to suggest.

4. They produce a powerful derivation from the superior parts of the body, and hence they are so very beneficial in diseases of the head, &c.

Among the American articles treated of by our author, we notice the juglans cinerea, the podophyllum peltatum, and the cassia marilandica.

Tonics.—According to our author

> "These are medicines which impart tone and vigour to the system without materially increasing either the heat of the body or the frequency of the pulse." Vol. I. p. 230.

This definition we deem objectionable in the latter clause. Were it true that neither the heat of the body nor the frequency of the pulse were increased by tonics, we would be at a loss to account for their injurious tendency in phlogistic diseases, or for the advantages derived from them in cases of an opposite nature. It does appear to us that the author must have intended to assert that these medicines do not as diffusible stimulants, *immediately* or *sensibly*, produce their effects, but gradually and slowly. This, indeed, appears from what the author himself states in the next page, and we should not have noticed the error if it had not occurred in a definition which should be not only free from palpable errors, but unexceptionably precise and correct in all its parts. Tonics act according to our author in three ways: 1st. by improving digestion, and thereby causing the more abundant and healthy formation of chyle; 2dly, by means of sympathy propagating the action which they locally produce to other parts of the body; and 3dly, by being absorbed into the circulation, and thus acting directly on every organ of the system.

The section on *Cinchona* will be found replete with ample information on the analysis of this highly important article, on its several pharmaceutical preparations as fully detailed in the London Medical Intelligencer, and also on its applications to various forms of disease. In the latter particular we think our author extremely judicious in his opinions and a safe guide in the use of the cinchona. The next articles under this class are the aristolochia serpentaria and the prunus virginianus, both plants indigenous to this country. The following is the account which our author gives of the remediate agency of the latter article:

> "When taken into the system, it produces a slight increase of the action of the heart and arteries, and induces, in some individuals, considerable drowsiness. When continued for some time, and not in very large doses, it gives tone to the stomach, and by this effect, vigour to the general system. When, however, it is taken in large quantities, and frequently repeated, it weakens the digestive organs, and produces an effect on the heart and arteries, the very reverse of a stimulant. In my own person I have several times reduced my pulse from seventy-five to fifty strokes in a minute, by copious draughts of the cold infusion taken several times during the day, and continued for twelve or fourteen days. This effect has not, I believe, been noticed before; but from much experience with it I am strongly inclined to believe that we may control the action of the heart and arteries to a considerable extent, by the use of this substance." Vol. I. p. 272.

Dr. Eberle proceeds to state that he employed this medicine in the cure of intermittents while he resided in the country, and in the majority of cases with success. It seemed to be most applicable to those cases which did not yield to the bark, and "in one instance in which bark, arsenic, and mercury had all been tried ineffectually, the patient was finally cured by the use of the wild-cherry bark infusion." Our author has also used it in hectic fever with unequivocal advantage. In this disease its beneficial effects are undoubtedly owing to the prussic acid which the wild cherry-tree bark contains. This acid is well known to lessen the irritability of the system.

and to be one of the most valuable palliatives we possess in phthisis. It removes the tension, irritability and frequency of the pulse, lessens the cough, and checks the nocturnal perspirations and the diarrhœa which attend this disease, and it thus indirectly sustains the strength of the system.

The cornus florida, the chironia angularis, the liriodendron tulipifera, are among the other American tonics which Dr. Eberle recommends as excellent substitutes and auxiliaries to the cinchona.

The remediate powers of *gold* in syphilis have for some years divided the opinions of practitioners in this country, and more especially in this city. Some of our most respectable physicians have doubted the efficacy of this article, having used it in the secondary forms of syphilis without effect. To this stands opposed the evidence of others no less entitled to consideration, who maintain that its efficacy is equal to that of the muriate of quicksilver, and with incomparably less inconvenience to the patient. Dr. E. has employed gold in two cases of secondary syphilitic ulcers of long standing, in one of which, although an amendment was evident, no cure was effected by this remedy: the other yielded entirely to the medicine. In both these cases mercury had been employed for a long time without effect. In a case of scrofulous ulceration he also gave it, and states that he succeeded in healing up the sores very promptly. The cure, however, was not permanent.

Emmenagogues.—Dr. Eberle believes with some very eminent physiologists, that the menstrual fluid is a secretion sui generis, and not a mere effusion of blood. For ourselves, we are free to confess that the facts and arguments hitherto advanced on this subject have by no means appeared satisfactory. Whatever may be the truth on this subject, it will not affect the belief now very generally entertained, that the articles usually termed emmenagogues do not possess any direct influence over this discharge. The contrary is still maintained, and reasoning from analogy, would lend it no little confirmation. Every organ in the body seems to enjoy a specific attraction for some one class of medicines in preference to others, and it is not unphilosophical to suppose that the uterus is entitled to the same privilege. Experience, however, has so far refused her assent to the supposition, and established the position beyond a doubt, that the articles usually supposed to be specific in their action on the womb are no more than relative agents. Else how could we reconcile the production of similar results from the most opposite and apparently contradictory means. Besides, their supposed emmenagogue action admits of explanation on other, and as it appears to us, conclusive grounds. We shall here borrow the language of our author, as his views coincide with our own.

> " I have already said that it does not appear probable that any of the emmenagogues exert any direct action upon the uterus. If this were the case, we might, I think, calculate with much more certainty on the operation of these remedies, than experience teaches us to do. If we attend particularly to the effects of these articles, we discover that many of them have a decided tendency to increase the flow of blood to the pelvic viscera generally. This is also the case with some other means occasionally resorted to for the restoration of obstructed catamenia, and which cannot be properly placed under the head of emmenagogues. Thus ligatures on the thighs, the semicupium, and fomentations to the external parts of generation, can only act by exciting a local plethora in the vessels of the pelvic viscera, and consequently of the uterus. I have known the extirpation of large hemorrhoidal tumours to restore suppressed catamenia, by which the local drain of blood from these parts was removed, and the ordinary fulness of the uterine vessels re-established." Vol. I. p. 405.

This simple explanation shows conclusively that this class of medicines may and do operate without possessing a specific power over the womb. It must be borne in mind likewise, that even then, emmenagogues are but limited agents, and most generally require the assistance of powerful general means, and are frequently rendered wholly superfluous by the judicious use of the latter. The cause of this, although not adverted to by Dr. E. appears to us to be plain and worthy of notice.

Diseases of menstruation are, in the great majority of instances, to be attributed to derangements of the general health, and are therefore removed by the same means which are adapted to the cure of the latter. Hence in cases of relaxation or debility, superinducing amenorrhœa, &c. tonics, the cold bath, exercise, &c. produce in general the removal of the obstruction in the uterus; and on the other hand, where too great a tonicity of the animal fibre, or a phlogistic diathesis are the causes of the obstruction, antiphlogistic means will be found not only serviceable, but indispensable, in producing the same result.

Under the second division of this class, Dr. Eberle places abortiva, of which one article only is certainly known to produce the effect implied by the term, the secale cornutum, or ergot. On this subject he has chiefly taken his abstracts from the valuable paper of Dr. Stearns, which has appeared in this Journal.

Narcotics.—The article treating of opium is very ample, and contains a large mass of practical information drawn from the most respectable sources. We have not room except for the following enumeration of the general effects of this substance.

1. Its primary effect in a small or regular dose, is an increase of the force and frequency of the pulse. When administered in a large dose, its stimulant effect is scarcely perceptible, and the pulse becomes slower and fuller.

2. Opium lessens muscular irritability, and diminishes the peristaltic motion of the intestines.

3. It checks some of the secretions, but renders others more profuse. As instances of the first effect, may be cited the gastric and pancreatic secretions, and the secretions from the mucous membranes. The serous secretions on the contrary, are augmented.

4. It at first excites, but afterwards depresses, the powers of the brain.

The utility of opium in dysentery, was for a long time disputed on the authority of Cullen. This physician, warped by his peculiar theory with respect to this disease, deprecated the use of opium. He considered dysentery to be little more than a constriction of the bowels, and was apprehensive that opium would still further increase this constriction, and lock up the irritating matters lodged in them. We know, however, from experience, that although opium does in general constipate the bowels, there are particular cases in which it is attended with an opposite effect. Thus, when the bowels are highly irritated, as they are in dysentery, or when they are affected spasmodically as in colic, opium, by removing the irritation and subduing the spasm, leaves them free to resume their peristaltic motions which had been interrupted. In this way, but always after early depletion, the administration of this valuable narcotic is frequently attended with the happiest effects; and, as is observed in the book before us, if accompanied at the same time with proper laxatives, it often aids in bringing away considerable stercoraceous matter. From all this it appears, that although while active inflammation exists, opium may be dangerous, as soon as this is reduced by the proper means, it may be had recourse to with the greatest advantage. In the latter stages of dysentery it is frequently indispensable.

> " In chronic dysentery it is very advantageously combined with calomel, a combination indeed upon which our principal reliance is in general to be placed in its treatment. From the intimate connexion which exists between the external surface of the body and the mucous membrane of the intestinal tube, it is evident, that on the principle of derivation, much advantage may be gained by exciting the vessels of the skin. It is therefore proper in most cases, to combine the opiate with some other article, which, without interfering with its anodyne properties, will increase its tendency to act upon the cutaneous exhalents." Vol. II. p. 29.

We can bear witness to the propriety of this practice. The skin in chronic dysentery is almost always dry and husky, and action once excited there, the intestines are sensibly relieved. To the use of calomel and opium gentle tonics should however be added, and will be found to assist in the cure.

Dr. Eberle thus speaks of opium in colica pictonum.

> " Administered in very large doses, and in combination with proper laxatives, it affords more immediate relief than any article I am acquainted with." Vol. II. p. 29.

> " I have had a very considerable experience in this disease, and my reliance has been uniformly placed on the exhibition of large doses of calomel

and opium in combination, repeated two or three times a day, until the gums were affected by the mercury. In general I have observed no *permanent* relief is obtained until the calomel affects the general system. The opium, however, is indispensable to mitigate the immediate sufferings of the patient; and when given in a very large dose, from six to eight grains, it not unfrequently enables the calomel to open the bowels, especially when assisted by a dose of castor oil.

Epispastics.—Dr. Eberle suspects that more advantage is derived from the secondary, or *purulent* discharge, occasioned by blisters, than from the evacuation which is the immediate consequence of vesication. In confirmation of this view he adverts to the manifest influence which the occurrence of abscesses and the appearance of artificial eruptions exert over diseases. The suppression of these discharges is, on the contrary, attended with great danger. This view of the modus operandi of blisters may be correct as to their effect in chronic cases, but it will be hardly sufficient to account for the beneficial effects they almost instantaneously produce, when applied in a sufficiently powerful form, and in severe cases, as for instance in the cholera of the East Indies. Their agency here must be explained on a different principle. The evacuation of serum or pus is comparatively too trifling to allow us for a moment to suppose that this circumstance relieves the affection. It is the derivation of nervous action and of the circulating fluid from the part previously affected to the newly inflamed part, which in our opinion brings about the favourable change. Dr. Eberle has strangely omitted all consideration of the influence of blisters upon the nerves, as manifested by the pain and irritation which they excite, and which in themselves are powerful means of derivative relief.

Sialagogues.—*Mercury.*—Believing with Dr. Cullen that this important article is a stimulus to every sensible and moving fibre of the body, we must object to the position which our author has assigned to it among the sialagogues—a class of stimulants which, strictly considered, are wholly local in their operation. That mercury is a salivant, and of the most powerful kind, no one will deny; but that its title should be founded on one of its local effects, when it produces others of a general nature, and far more important in themselves, cannot be deemed consonant with the spirit of philosophical classification. Besides, salivation is after all an incidental operation of this medicine, not common to all its preparations, nor essentially necessary to the cure of those diseases in which its presence has been deemed the most beneficial. The very importance which has been attached to salivation arises from the circumstance, that this occasional result of the operation of mercury is considered as an evidence of the successful influence which the medicine has exerted over the *general system*. From its general effects then, and not from one that is local, should the designation of the article be derived. In advancing these remarks we have no intention to disparage the merits of mercury as a sialagogue, more than as an errhine, a cathartic, a diaphoretic, a diuretic, &c.; on the contrary, it is from this very consideration, that it possesses one and all of these salutary powers, that we would insist upon the necessity of considering it, when discussing its general character, as a general and not a local stimulant.

Our author considers that there are three modes in which mercury acts in producing its effects on the animal economy. He says, "1. It is absorbed into the circulation and acts through the medium of the blood. 2. It produces a primary impression in the part to which it is applied, which impression is propagated to other parts by means of the nerves. 3. It acts locally, by simply exciting an action in the parts to which it is directly applied."

In following the steps of another writer, Dr. Eberle has here fallen into a most awkward arrangement, which does not elsewhere disfigure his own divisions. A moment's reflection will convince him of the propriety of reversing the order here adopted; if, indeed, a more simple and unincumbered one be not rather preferred. We would, however, suggest it as an improvement that the effects be considered, 1st. As they are local or primary, the mercury acting on the part to which it is directly applied; 2ndly, As they are general or secondary, propagated to distant parts of the system, either through the medium of the circulation or by nervous sympathy. This arrangement is at least the most natural, and it comprises all the three modes referred to in the text. The manifestations of the different modes in which mercury acts are well known. Its local operations are evinced by purging and vomiting, by its anodyne effects in cases of morbid irritability of the intestines, &c. Its general operation is evinced in the increase of the action of the heart and arteries, the increase of the action of the secretory organs in general, &c. Hence it proves remediate according to Dr. Eberle.

"1. By producing a new and peculiar excitement in the system, which overcomes the morbid excitement prevailing on the principle suggested by Hunter, that two different diseases cannot exist at the same time in the human body.

"2. By equalizing the circulation, and thereby removing local congestions.

"3. By establishing an afflux to the inflamed glands of the mouth from the neighbouring parts.

"4. By exciting discharges from the bowels and the various excretory glands of the body." Vol. II. p. 411.

Our author very justly observes, that the instances in which, owing to peculiar susceptibilities of the system, the action of mercury is attended with distress and danger, and permanent injury to the constitution, are very rare, and depend on circumstances independently of any inherent *poison* in the medicine. We may further observe, that the diseases which are supposed by certain timorous and prejudiced writers to be the effects of mercury, might frequently be traced to other causes, such as mismanagement, and more especially to the violence of preceding disease. Much mischief too arises from the abuse of mercury, as from that of every powerful article. But shall we, therefore, blindly reject every means of opposing disease excepting such as are incapable of abuse, or in other words, inert? There is no agent of good on the face of the earth but may be made the instrument of proportionate evil, and this holds no less in the medical than in the moral and physical departments of nature.

There are some constitutions which seem to be altogether unsusceptible of the action of mercury. Where this depends on idiosyncrasy, it will be found almost impossible to bring on the specific action of the medicine. But in the greatest number of instances, this unsusceptibility will be found to be connected either with a very debilitated condition of the system, or with a very full and phlogistic habit. The restoration of vigour to the system in the first case, and the reduction of its excess in the second, will remove the resistance to the operation of mercury.

In other cases, not exactly falling under any of this description, nauseating doses of antimony, or ipecacuanha, have been found highly serviceable in awakening the dormant susceptibility of the system to the influence of mercury.

Dr. Eberle adduces the following example of the efficacy of this practice, which it appears he learned from Dr. Joseph Klapp of Philadelphia:

> "Of the efficacy of nauseating doses of antimony, in overcoming the resistance of the system to the action of mercury, I have lately had a remarkable example. After having tried ineffectually, for nearly two months, to bring a venereal patient under the specific influence of mercury, employed both externally and internally, I at length, by the suggestion of Dr. Klapp, gave him nauseating doses of tartar emetic, and by these means succeeded, in less than three days, in establishing a gentle salivation." Vol. II. p. 408.

Dr. Eberle informs us, that Dr. Klapp employed this practice several years before Dr. Paris's observations on the same subject made their appearance.

With regard to the introduction of mercury into the treatment of acute diseases, our author observes:

> "Mercury was for a long time almost entirely confined to the treatment of chronic diseases. About the middle of the last century it was introduced by some of the New-England practitioners as a remedy in acute inflammatory fevers; and soon afterwards Dr. Robert Hamilton of Lynn Regis, in England, published his valuable observations on the efficacy of calomel and opium in inflammatory disorders." Vol. II. p. 412.

Whether the introduction of mercury in the treatment of inflammatory disorders originated in this country or not, certain it is, that the very early adoption of so powerful an article, to the use of which the fears of the ignorant have been no less opposed than the prejudices of the learned, entitles the physicians of our country to an ample share in the honours due to original, bold, and successful practitioners.

Its application to almost every disease in some one or other of its stages, has now become very general, and the use and the abuse of it are so well known that we shall not dwell on this portion of our author's labours. We refer to them for ample information on the uses to which this medicine has been applied.

We have now laid before our readers those portions of the book before us which we deemed the most worthy of their attention, and the best calculated to attract them to a further acquaintance with its merits. In conclusion, we cannot avoid remarking that we consider Dr. Eberle entitled to much praise for expunging from the list of remedies a great number of articles which are either inert or of doubtful efficacy.

ART. II. ELEMENTS *of* MEDICAL JURISPRUDENCE. By THEODERIC ROMEYN BECK, M. D. Professor of the Institutes of Medicine, and Lecturer on Medical Jurisprudence in the College of Physicians and Surgeons of the Western District of the State of New-York, &c. &c. Albany, 2 vols. 8vo. 1823. Vol. I. pp. 418, vol. II. pp. 417.

THE subject matter of these pages embraces topics of deservedly great interest: they are the result of long and severe study, and that too by one zealously devoted to the cultivation of this branch of science. We believe the work to contain a more ample exposition of the subjects of which it treats than any other that has heretofore appeared in our language. Our habits of personal acquaintance with the author, independently of other circumstances, will prevent us from giving any thing further than an analytical notice of the volumes.

Medical jurisprudence, Legal medicine, or Forensic medicine, as the science is variously termed, is that species of knowledge which applies the principles and practice of the different branches of medicine to the elucidation of questions in courts of judicature. It is by some authors considered in a more extensive sense, and thus embraces *medical police*, or those precepts which may prove serviceable to the legislature or the magistry. In its more restricted signification Dr. Beck has taken up the subject at this time.

As a suitable introduction to the work, Dr. B. has given us a brief history of forensic medicine; and he very properly observes that traces of this science are to be found in the Jewish laws. The code of Justinian, it is well known, possessed many provisions embraced in juridical medicine, not a few of which are incorporated into the laws of civilized countries. The Caroline code, however, is the first of importance that lays claims to the notice of the historian of forensic medicine. It was framed in 1532, under the auspices of Charles the fifth of Germany: it ordained, among numerous other provisions, that the opinions of medical men should be formally taken in every case where death had been occasioned by violent means. We pass over the services which several of the kings of France rendered this branch of knowledge: their example in this respect was most happily followed by the illustrious chieftain who lately occupied their throne.

It is generally conceded that the earliest writer laying claim to any merit of systematic arrangement in legal medicine, was Fortunatus Fidelis, whose work appeared at Palermo in 1602. He was followed soon after by the celebrated Paulus Zacchias, the author of the "Questions Medico-legales," a work of huge extent and of immense research and merit. It was issued at Rome between the years 1621 and 1635; and has justly secured to Zacchias the title of the Father of Medical jurisprudence. Some short while after this period, many authors of deserved regard, on this science, appeared in Germany: Dr. Beck very properly designates, in particular, the valuable and comprehensive collections of Schlegel. "It consists," says Dr. B. "of upwards of forty dissertations on various parts of medical jurisprudence, written by Germans at different periods during the eighteenth century, and is alike honourable to the national character, and the individuals whose investigations appear in it."

Several of the more able authors of France are next noticed by Dr. Beck. Louis is considered as the individual who first promulgated a just idea of the science to his countrymen. He investigated several important points with great ability. His consultations in various cases, and which are preserved in the Causes Celebres, abound in various and instructive learning. Fodere and Mahon, have each their respective merits briefly pointed out, and the toxicology of the indefatigable and enterprising Orila, is spoken of by our author with becoming commendation. Professor Capuron in 1821, published a small work on legal medicine, so far as it relates to midwifery.

The history of medical jurisprudence as cultivated by the English, is necessarily very brief. Scarcely any thing indeed had been done by that people for the advancement of this branch of study prior to the appearance of the work of Dr. Smith, in 1821, which performance is entitled to particular praise. The elements of Dr. Farr were, to a certain extent, serviceable, and the medical ethics of the late Dr. Percival, also contributed some useful facts: but to Dr. Smith are the profession to look for the first happy display of many interesting circumstances, interwoven with the science of legal medicine and the practice of the British courts. The most copious and professedly systematic work on the subject which has issued from the English press, is that by Dr. Paris and M. Fonblanque, Esq. To the enlightened labours of Dr. Duncan, jun. of the University of Edinburgh, may be fairly ascribed that awakened zeal to forensic medicine which animates British practitioners at the present day. Dr. Beck has very properly observed, "if the publications contained in the Edinburgh Medical and Surgical Journal, of which he is the editor, are to be deemed any criterion on this subject, I should not hesitate to declare my decided conviction, that Dr. Duncan is at present the ablest and most learned medical jurist in Great Britain."

Dr. Beck has favourably noticed the very little that has been done for this science in his native country. Dr. Rush in an introductory discourse published in 1811, dwelt in an eloquent and impressive manner on the importance of juridical medicine; and in 1817, the learned Judge Cooper, M. D. republished in one volume, with notes, several tracts on the subject by English writers. Some of the inaugural dissertations of our graduates have contributed to the same laudable end. Lectures on this science have been, and are still delivered in several of our colleges. With becoming feelings, Dr. Beck states that his impulse towards this study was derived from an attendance on the lectures of the late Dr. Stringham of New-York, who was the first that ever delivered a course on medical jurisprudence before an American audience. His surviving auditors will bear united testimony to the discrimination and good sense which characterized the instruction imparted by this accomplished professor. The appearance of Dr. Beck's volumes, makes us the less regret that the friends of Dr. Stringham have not yet been gratified by the publication of his lectures; which would have furnished at once an outline of the then existing state of knowledge on the subject, and a suitable memorial to his reputation. But we proceed to the consideration of Dr. Beck's work, which is of a higher character.

In his first chapter, Dr. Beck has treated at some length of that perplexing and prolific subject, *feigned diseases*. From Zacchias he has derived the general rules for the detection of these impositions which are acknowledged to be so discriminating as to have received the sanction of most succeeding writers. Among the disorders which at various times have been feigned, we find the following: alteration of the pulse; altered state of the urine; hæmaturia; incontinence of urine; suppression of urine; maiming and deformity; dropsy and tumours of various kinds; excretion of calculi and various foreign matters; ulcers; hæmoptysis; hamatemesis; jaundice, and cachexia; fever; pain in various parts; syncope and hysteria; diseases of the heart; apoplexy; paralysis; epilepsy; convulsions; catalepsy; nostalgia; near sightedness; ophthalmia; blindness and deafness, with or without dumbness.

In this interesting chapter, we have many curious and instructive cases recorded, several of which we should be happy to transfer to our pages, did our limits permit. We cannot withhold the following:

> "That species of *blindness*, which originates from amaurosis, is strongly characterized by the dilated and fixed pupil. There are, however, cases in which the pupil retains some contractile power, although we know the sight to be lost. In such an instance, epispastics, and setons, are proper; and if suspicion exists, the patient should be watched, to see whether he does not avoid obstacles put in his way. If this be carefully pursued, the deceit is often detected. The following case, however, occurred to Mahon. A young conscript was sent to the corps blockading Luxemburg. Having passed the night at the advanced posts, he declared himself blind the next morning, and was sent to the hospital. The surgeons used the most powerful remedies, and were convinced that the disease was feigned, as the pupil contracted perfectly. He assured them, however, that he could not see, thanked them for their care of him, and asked for the application of new remedies. He was sent to the superior medical officers at Thionville. They also were convinced it was a fraud; but having learnt the course that had been pursued, they determined on a last trial. He was put on the bank of a river and ordered to walk forward. He did so, and fell in the water; from which, however, he was immediately taken by two boatmen stationed for that purpose. Convinced of his blindness, but unable to explain the dilatation and contraction of the pupil, the surgeon gave him a discharge; but warned him at the same time, that if his disease was feigned, it would prove of no avail, as it would sooner or later be ascertained that he was not blind. They offered him another, if he would confess the fraud. He hesitated at first; but being at length assured that they would keep their word, he took up a book and read.* 'The proof in this case,' says Foderé, 'would have been complete, if, instead of a river, he had been put on the edge of a precipice, where he might see that nothing could prevent his destruction—*but what if he had been really blind?*'
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> "*Pretended deafness*, may be detected by making a noise at a moment least expected. This excites a sensation which it is difficult to conceal. Acute persons will also always find some mode of ascertaining the truth. A deserter, condemned to labour in the canal at Arles, said he was deaf, and passed for such with his comrades and guards. Being brought before

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* Mahon, i. 360.

the inspector to be examined, he appeared such as he stated, until Foderé spoke to him in a low tone of voice, saying, 'you cannot persuade me that you are deaf; but if you will confess the truth, you shall have your discharge.' To the astonishment of all, he answered, 'Very well; I am not deaf.'* Again, a conscript stated that he was deaf. The general who visited him for the purpose of examination, let fall a piece of silver behind him. The deaf person turned his head round towards the place from which the noise proceeded, and by this means was detected.† 'Who would believe,' says Baron Percy, 'that by exercise, some young men have so successfully affected deafness, that a fire of musquetry exploding suddenly at their side could not draw from them the least mark of fear or surprise? I knew one, however,' he adds, 'who betrayed himself at last before his judges, at the sound of a small piece of money designedly dropped on his foot, while it was whispered in his hearing, that he was certainly going to be discharged.'‡

"Those who pretend to be *deaf and dumb*, have a still more arduous part to play, and need an art and perseverance of which few are capable. Such who are really in that unhappy situation, acquire a physiognomy and certain gestures which it is difficult to assume, and which it is impossible to prepare for every examination that may be made. In reviewing the histories of those pretending deafness and dumbness, it has been found, says Foderé, that women have been most succesful, and the sex fondest of talking are the most capable of feigning dumbness.

"The Abbe De L'Epée was deceived by a pretended deaf and dumb person, who feigned to be the son of Count De Solar. Sicard, however, his successor, was more fortunate in detecting the villany of another, whose ingenuity resisted for four years an infinite number of investigations made on him in France, Germany, Switzerland, Spain, and Italy. This young man was named *Victor Foy*, and was from Luzarche, six leagues from Paris; but called himself *Victor Travanait*—travelling, as he said, in search of his father, but in reality to avoid military duty.

"He was imprisoned in various countries, watched closely, and examined most rigidly, without being detected. So perfectly, indeed, had he accustomed himself to his part, that when he avowed the fraud, to use his own expression, he had unlearnt how to hear. In Switzerland, he was tempted by a young and beautiful woman, who offered him her hand, but without effect. In the prison at Rochelle, the turnkey was ordered to sleep with him, to watch, and never to quit him. He was frequently awakened in a violent manner, but his fright was expressed by a plaintive noise, and in his dreams guttural sounds alone were heard; and the hundred prisoners, who were all ordered to detect him if possible, could discover nothing from which they could imagine deceit. At last the officer charged with the police of the prison of Rochelle, became satisfied, after many examinations, that he was really deaf and dumb, and declared this in the public journals, so as to obtain his liberty. Victor unhappily at this period went beyond his capacity. He stated himself in writing to be an elève of the Abbe Sicard. This ingenious and worthy individual denied the fact without seeing him, and proved it from the writing. 'I cannot tell,' said he in a letter to the counsellor of state, Real, 'whether this person confined at Rochelle, be really Victor Travanait, or not; but I can positively say that he was not born deaf and dumb.' The reason which he assigned for this opinion, was, that he wrote from sound, while the deaf and dumb write only as they see. In his letters he appeared so ignorant as to divide some words, and annex prepositions to others, as if they were constituent parts. The following extract will serve as a specimen: '*Je jur de vandieux, ma mer et nè en Nautriche, quhonduit* (pour *conduit*) *essepoise* (pour *espoir*); *torre* (pour *tort*); *ru S. Honoret, jai tas present* (pour *j'étais present*); *jean porte en core les marque* (pour *j'en porte encore les marques*).' It will be observed that in this letter Victor uses *q* instead of *c*; and from this Sicard inferred that he had heard, and knew that the sound of these gutturals was similar. He concluded by stating his conviction that Victor was not born deaf, and of course was not dumb.

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* Foderé, 2. 475. † Belloc, p. 252.

‡ New-York Med. Repository, vol. XVII. p. 359.

"The criminal was now brought to the institution for the deaf and dumb at Paris, and placed before the black board. He was ordered to write answers to questions put to him by Sicard, which he did in so able a manner, and eluded the most embarrassing questions so ingeniously, that nothing but his orthography could yet be adduced against him. Sicard had taught his pupils to articulate sounds, and he had done this by showing them the words as it were, by the apparent effects of touches on a musical instrument, and then pressing their arms more or less strongly. During this operation, he obtains at pleasure the hard or soft consonant, which serves as a sign for the required articulation. Victor, when put to this proof, instead of the syllable *pa*, pronounced only the vowel *a*, and never uttered the labial consonant, which all the deaf and dumb easily articulate. He was then put to the last test. When asked how he had been instructed, he answered by signs, and promised to explain by them such words as they might write on the black board, but could not do so. He was then placed among those who were really deaf and dumb, but understood nothing from them, neither could they comprehend him. Frightened at this detection, and still more so at the threat he had heard, that he would be confronted with the pastry-cook, to whom he had been an apprentice, he at last took up a book and read.*

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* Foderè, vol. II. p. 478—9. When Mr. Clerc, the distinguished teacher of the deaf and dumb at Hartford, visited Albany, he informed me, that he was one of the pupils who assisted in detecting Victor.

"It is an observation of the author from whom I have taken this case, that it was Victor's folly alone which detected him. Had he not asserted that he was a pupil of Sicard, he might have escaped. But he was ignorant that all were educated alike, and of course, should express their ideas in a similar manner."*

On the *disqualifying diseases*, constituting chapter second, Dr. B. considers the subject as, 1stly, to the disqualifications in civil and criminal cases; 2dly, as to those for military service; and 3dly, as to the rules for certificates, and the law respecting them. Under the second head, among other important matters the author enters somewhat into an examination of the question, what diseases should incapacitate from military service? With the exception of a solitary paper on this subject, by Professor Mitchill of this city, Dr. B. observes, we have no written rules to guide the American military surgeon. Many of the regulations, however, which are adopted by the governments of Europe, might furnish us with principles which to a certain extent, would regulate us in this particular. Several of the rules formed by the government of France, and adopted by Napoleon, would doubtless materially aid us in the formation of salutary ones for ourselves. We must request the reader to examine the pages of our author (p. 33—43) for the list of disqualifying diseases. By the French law, "all officers of health, and others, convicted of having given a false certificate of infirmities or inabilities, or having received presents or gratifications, shall be punished by no less than one, or more than two years imprisonment; or by a fine not less than three hundred nor more than one thousand francs."

Chapter III. On *Impotence* and *Sterility*.—Medical men are more frequently consulted on these points than is generally supposed; and to the medical jurist it is perhaps doubly necessary that they be well understood. A knowledge of this subject may often become necessary before judicial tribunals.

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* A case of pretended *deafness and dumbness* in this country, by a person named *James Stilwell*, was detected by Mr. Clerc in 1822. The imposture in this instance was, however, more clumsy than in the one in the text. See the National Gazette, Sept. 14, 1822.

An individual accused of committing rape has been known to plead that he was physically incapacitated, while the legitimacy of children has been contested on a similar plea. The laws of the Jewish legislator, Moses, and afterwards the Roman law, permitted divorce at the pleasure of either party. The Justinian code, embracing the principles of the Christian law in this particular, declared marriage to be indissoluble, yet at the same time prescribed the mode of obtaining divorce, and promulgated statutes as to impotence. It would seem that the Napoleon code did not expressly declare absolute and incurable impotence to be a cause for dissolving marriage; but the course of legal proceedings under it, according to our author, leads to it. The English law may be found in Blackstone. In these American States the English law is in force; and the fact having been established of impotence before marriage, is a sufficient cause for dissolving that connexion. Repeated applications have been made to the legislature of New-York for divorce, on the ground of impotence supervening after marriage; but they have uniformly been rejected. The causes of impotence are divided by Dr. B. into the absolute, curable, and accidental or temporary. The termination of the canal of the urethra at some other place than what is natural, has been deemed by some as an absolute cause; while others assert that though coition may be possible, yet it will prevent pregnancy. Belloc as well as Zacchias, however, have mentioned cases contradictory to this belief. The first of these writers relates that he knew a person at Agen in whom the orifice of the ureters terminated at the bottom of the frenum, and who had four children resembling their parents, and what is still more remarkable, two of them had the same mal-formation. In a former number of this Journal* we stated an instance of an individual now living in New-York, who notwithstanding this mal-formation had two children. Dr. B. thinks that much in such cases will depend on the distance to which the orifice is thrown back. The inability to propel the semen out of its vessels is frequently to be considered as an absolute cause of impotence; but generally it is a curable one. Many other conditions, either of the system, or of the genital parts themselves, are noticed by Dr. B. upon which we cannot at present dwell. Among the curable causes of impotence we find our author has very properly mentioned an atony of the parts, arising sometimes from local disease or external injury; and at others from masturbation. Every practitioner must have witnessed instances of this nature. Fortunately for the sufferer they are not irremediable. But the most important causes of this serious state of the system, are those denominated the accidental or temporary; since they are frequently the subject of legel investigation. They are those which affect an individual during his marriage, and are of course to be considered in cases of contested paternity.

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* Vol. II. p. 12.

On the subject *doubtful sex*, constituting chapter IV. we find sufficient notice of various cases of malformations of the genital system, which have led to the belief by some, of the existence of a class of beings, denominated hermaphrodites, but which enlightened philosophy wholly discards. The ancient laws, as well as the English common law concerning androgyni, are also briefly given.

Next follow three chapters on the several subjects, *rape*, *pregnancy*, and *delivery:* and under these heads we have perhaps a majority of all these topics embraced that most frequently present themselves to our consideration in courts of judicature. The first of these chapters, that on rape, includes a consideration of the signs of virginity; those of defloration and rape. It is well known that according to our laws, the testimony of the insulted individual is sufficient to condemn the criminal; yet notwithstanding this, it often happens that the opinion of the physician is required. Hence a knowledge of the signs of virginity is requisite. Of these signs that concerning the existence of the hymen has probably been most contested. Many eminent anatomists have denied altogether the existence of this membrane, or have considered it as a preternatural or morbid formation: the celebrated Parè is of this number. On the other hand Albinus, Ruysch, Morgagni, Haller, Cuvier, and others believe in its presence previous to sexual intercourse. Dr. Beck very properly decides in behalf of the existence of this membrane. Anatomists have maintained that the carunculæ myrtiformes were the remains of the ruptured hymen. Our author cites the testimony of Conquest that the carunculæ may be found when the hymen remains entire. The sections on the signs of defloration and rape, and on the laws of various countries concerning this crime, are quite elaborate. The laws of our states differ as to the degree and nature of the punishment.

In the state of New-York, an assault with an intent to commit a rape may be punished by fine and imprisonment, or both. In the states of Delaware, South Carolina, Connecticut, Massachusetts, and Illinois, death is prescribed. While in Pennsylvania, Virginia, Vermont, New-Hampshire, and New-Jersey, imprisonment for a long term of years, with or without fine, is directed. On the vexed question, Does pregnancy ever follow rape? Dr. B. remarks, "I should consider that pregnancy was not incompatible with the idea of rape." This opinion, though at variance with that of several medical jurists, is, in our view of the subject, justifiable; and we are pleased to observe that the celebrated Dr. Good has lately countenanced the same doctrine.

Scarcely a circumstance connected with pregnancy can be matter of indifference to the student of medical jurisprudence; and when we state that eighty closely printed pages are devoted to this subject and to delivery, the reader will justly conclude that the information to be derived from this work on these topics is at least ample. Pregnancy is considered by Dr. B. under four divisions: 1st, the laws of various countries relating to the existence of pregnancy; 2dly, the signs of pregnancy, together with the best mode of ascertaining concealed or pretended pregnancy; 3dly, the arguments and proofs in favour and against the doctrine of superfœtation; and, 4thly, some questions arising out of the previous examination.

The French civil code declares that no female shall be allowed to contract marriage before the age of fifteen full years:

nevertheless such marriage shall not be dissolved, 1st, when six months have elapsed after the female, or both of the parties, shall have attained the required age; and, 2d, when the female although not of the required age, has become pregnant before the expiration of six months. Of the changes which take place in the system, from conception we have a very minute examination. Every practitioner is aware how fallacious many of these signs are, more especially during the early months, whether occurring in the uterus itself or in the system at large. The more important evidences of pregnancy are, the expansion or enlargement of the abdomen; a change in the state of the breasts; the suppression of the menses; the loss of appetite, naûsea, vomiting, &c., the motion of the fœtus in the womb of the mother; an alteration in the state of the uterus. Dr. B. fully investigates all these changes; and like other eminent writers on the subject, gives it as the result of his observation and study, that the medical jurist is bound to weigh all the *possible* causes that may produce these various changes, and that he is to recollect "that all of them have occasionally proved uncertain or equivocal. *There is no one invariable sign of pregnancy.*"

It was a postulate with many of the ancients, and inculcated by Aristotle, that when milk is secreted pregnancy has occurred. Our author cites several well authenticated cases to invalidate this rule. Denman considered the suppression of the menses as a never-failing consequence of conception; but he is opposed by Heberden, Daventer, and others. Our own limited experience is in contradiction to that of Dr. Denman. The motion of the fœtus cannot always be felt by the mother. A case showing the uncertainty of its occurrence, is quoted by Dr. B. from Capuron. A female with a very large abdomen was received into one of the hospitals of Paris; she was visited by many distinguished accoucheurs, surgeons, and physicians. Some declared that she laboured under ascites, others, that a scirrhous and dropsical ovarium was present. An abdominal pregnancy was also suspected, but no one believed it to be real pregnancy, since no motion of the fœtus could be felt. The woman was kept on light food, and innocent remedies were administered. The volume of the abdomen enlarged, and, at last, after three weeks of examinations and consultations, a strong and healthy child was born.

Quickening is considered by Dr. B. to be produced by the impregnated uterus starting suddenly out of the pelvis into the abdominal cavity. This view we believe to be among the best founded of all the various theories concerning this physiological fact that have been advanced.

We must refer to our author's own pages for his disquisitions concerning superfœtation. For our own part we do not think the subject yet cleared of all its difficulties. The case published recently by Dr. Maton of London, needs further explanation. "Should the doctrine of superfœtation," says Dr. B. "ever be pleaded in medico-legal cases, we must be guided by the laws of legitimacy, both as to premature and to protracted births. The latest born should fall within the legal term, or be excluded from the privileges attendant on it; and this is more particularly necessary from the obscurity that invests the subject."

A natural consideration of the subject *delivery*, is under the twofold view as it respects the mother, and as it respects the child. This chapter is accordingly arranged in divisions as to the mother; 1st, concealed and pretended delivery; some medico-legal questions connected with the subject: as to the child; the signs of death of the child before or during delivery; the signs of maturity or immaturity; and lastly, the state necessary to enable the new-born infant to inherit.

Among the evidences of recent delivery, Dr. B. has very properly enumerated the lineæ albicantes: we cannot so confidently approve of his dependence on the areolæ. "The areolæ," says Dr. B. "round the nipples, are dark coloured." This sign we are aware, has been most insisted on, but we are induced from actual observation to believe it not well founded. In cases of recent delivery, in answer to the question *within what time* should the examination of the female be made? our author justly considers the term of eight or ten days at furthest.

as most proper for this purpose. Dr. B. concludes this part of his subject by considering those instances where the female has been actually delivered, and for sinister designs substitutes a living for a dead child. The highly interesting case of Charles Angus of Liverpool, in which the learning and talents of Dr. Bostock, now of London, were so eminently conspicuous, is given at some length, inasmuch as it points out many of the difficulties that may here occur in judicial investigations.

The consideration of the *cæsarian section* and extra-uterine conceptions, closes this portion of the work.

Chap. VIII. On *Infanticide*, is written by Dr. John B. Beck.

Legitimacy, which necessarily includes the consideration of gestation, its variations in duration, in different animals and in the human race, causes thereof, premature delivery and the like, with an exposition of the laws of different countries on the subject of legitimacy, form the ensuing chapter.

It is of essential importance to the physician well to understand some of these topics. We have within a short while heard of an opinion being given, and upon which much confidence is placed, that the distinctive marks of an eight and nine month's child, are sufficiently conspicuous for a legal decision to be founded thereon. Dr. B. observes, that the fact that dead children and twins are born at the regular period, is certainly a strong proof of there being a fixed term of gestation. On premature delivery, however, Dr. B. thus expresses himself: "There is an intrinsic difficulty connected with this question, which should lead us to be tender in forming our opinions, and this originates from the variety observed in children when born at the full time. They differ in size, general appearance, healthiness, &c.; and sometimes indeed, we know that eight months' children have been observed larger and healthier than those of nine months. The general appearance, then, should be noticed, but not too much relied on, in forming an unfavourable opinion."

We are apprehensive that Dr. B. has spoken too decisively on the subject of protracted utero-gestation; but we dare not find fault where there is so much to commend.

The caption of chapter X. is all that we can admit; 1st, of the survivorship of the mother and child, when both die during delivery. Cases that have been decided in Germany, in France, in the state of New-York; 2d, of the presumption of survivorship of persons of different ages destroyed by a common accident. Laws on this subject, Roman, ancient French, Napoleon code, English. Cases that have occured under each. Propriety of having fixed laws on this subject.

Under the head of *age* and *identity*, we have several very interesting cases. "In the state of New-York, the presumption of the duration of life, is reduced to the period of five years, provided the party has not been heard of during that time; and marriages are allowed to be contracted after the period stated; but the space of seven years is adopted in the act for the more effectual discovery of the death of persons, upon whose lives estates depend." With regard to the question at what age pregnancy is possible, and beyond which it cannot occur? Dr. B. cites the remarkable instance given by Meyer, of the Swiss girl, who became a mother at nine years of age. As to facts of this nature, he justly observes, they are to be considered as examples of precocity resembling those which occasionally occur in the other sex. "The English law admits of no presumption as to the time when a woman ceases to have children, though this enters into most other codes." We believe that neither our American laws nor any proceedings in our courts, have yet given any decision on this point.

Dr. B. has chosen the term *mental alienation* to designate the various affections of mind ordinarily denominated *insanity*. This prolific subject is arranged under several heads; the symptoms which constitute insanity; of feigned and concealed insanity; of the legal definition of a state of mental alienation, and the adjudications under it; of inferior degrees of diseased mind; of the state of mind necessary to constitute a valid will; of the deaf and dumb; their capacity, and the morality of their actions. In treating of *idiotism*, Dr. Beck observes that individuals labouring under congenital idiotism, are marked by some striking characters; and among other observations, gives his belief that the *skulls of such subjects are smaller and inferior in height to the skulls of maniacs.* An examination of this contested point, inclines us to a belief the opposite of that advanced by Dr. B.; and we apprehend that some of the conclusions, both of Gall and Spurzheim on this question, have been too hastily made. We cordially recommend the observations of our author on feigned and concealed insanity. The subsequent portion of the chapter is no less deserving attention.

The second volume opens with an ample discussion of the subject, *persons found dead.* We must for want of room, still more closely than in considering the first volume, limit our present remarks. The following matters are discussed in this chapter: medico-legal dissection; persons found dead from noxious inhalations; persons found hung; persons found strangled; persons found drowned; persons found smothered; persons found dead from wounds; persons found burnt to death; persons found dead from hunger. Deserved praise is bestowed by Dr. B. on Marc for his writings on medico-legal dissection. The *Causes Celebres*, Mahon, Fodere, the English state trials, as well as the decisions of the American courts, have been thoroughly examined, and furnish many interesting cases for this section of Dr. B's inquiry.

The several questions connected with *wounds*, or lesions on the living body, are next taken up; also, the laws as to the time within which death from wounds is deemed murder; mutilation, &c.; wounds of the heart, of its ventricles and auricles, says our author, are mortal: "but it is remarkable, that numerous cases are on record, where life has been prolonged for a considerable time after the infliction of the injury." Bohn quotes several cases of this kind, and an instance occurred in the British army in Spain, some years since, "where a soldier survived for thirteen days with a musket-ball in his heart." The discussion of wounds in a medico-legal point of view, is in so many respects. peculiar, that we believe the most skilful adept in surgery, will find novelty in the perusal.

The remainder of the second volume treats of *poisons*, unquestionably the most important, if not the most difficult subject in legal medicine. Dr. B. has arranged this part of his work under three general divisions; 1st, the signs of poison in the living body; 2dly, the signs of poison on the dead body; and 3dly, the various substances that may or have produced these dangerous and fatal effects. The individual poisons under the ordinary classification of mineral, vegetable, and animal, are then examined in their respective relations as subjects of medical jurisprudence; as to their action, the changes they produce on the system, means of relief, tests, and the like. We find some substances here introduced that we have not before observed in any treatise of forensic medicine.

Pathology has recently thrown much light on a subject heretofore involved in great obscurity, and the facts which we at present possess ought to be strongly impressed upon the mind of every person who purposes forming an opinion concerning the effects of different poisons on the stomach. We here allude more particularly to the valuable observations of Baillie on the ordinary appearance of the stomach, and especially to the researches of Dr. Yelloly, contained in his paper published in the Medico-Chirurgical Transactions of London, vol. IV. entitled, " on the vascular appearances in the human stomach, *which is often mistaken for inflammation of that organ*. Dr. Beck has given us an abstract of a portion of this essay. We repeat, we scarcely know a more important contribution to science than this by Dr. Yelloly, and will readily be excused for enriching our pages with a short extract.

" *The vascularity of the human stomach after death* may lead to error unless properly observed. I have already mentioned a remark of Baillou on this point, and we are further indebted to Dr. Yelloly for some instructive observations on it. This distinguished physician examined the stomachs of twenty individuals, among which number were five criminals, who were hanged, and in whom therefore the appearances of health were likely to be found. Not one of the whole number had any affection of the stomach while living. In all he observed a highly vascular state of the villous coat of the stomach, in particular parts, (as about the pylorus and cardia,) with but two exceptions; in one of these, no vascularity was observed, and in the other it was obscure. In the five executed criminals, the vascularity amounted to a red or crimson hue. These appearances were distinct for a short time only after death, being most marked on the first day, and soon after, but at irregular periods, becoming more obscure. Dr. Yelloly infers, from these dissections, 'that in the villous coat of the stomach, appearances of vascular fulness, whether florid or dark coloured, in distinct vessels, or in extravasations of different sizes, are not to be regarded as unequivocal marks of disease. They occur in every variety of degree and character, under every circumstance of previous indisposition, and in situations where the most healthy aspect of an organ might be fairly inferred. They are found in every part of the stomach, but principally in the posterior part of the great end, and in the lesser curvature, and they cover spaces of various extent, but are generally well defined and terminate abruptly.' He also supposes that this vascularity is confined to the adult stomach, and is but seldom seen in young subjects.

"If we compare this statement with the appearances mentioned by Dr. Baillie, we shall readily see the danger of falling into mistakes on this point. Ordinary inflammation he characterises thus. 'The stomach, upon the outside at the inflamed part, shows a greater number of smaller vessels than usual, but frequently not much crowded. In opening into the stomach, it is found to be a little thicker, at the inflamed part, the inner membrane is very red from the number of small florid vessels, and there are frequently spots of extravasated blood.'

"But, 'when arsenic has been swallowed, the stomach is affected with a most intense degree of inflammation. Its substance becomes thicker, and in opening into its cavity, there is a very great degree of redness in the inner membrane, arising partly from the very great number of minute vessels and partly from extravasated blood. Portions of the inner membrane are sometimes destroyed, from the violent action that has taken place in consequence of the immediate application of the poison. I have also seen a thin layer of the coagulable lymph thrown out upon a portion of the inner surface of the stomach. Most commonly too, some portion of the arsenic is to be seen in form of a white powder, lying upon different portions of the inner membrane.'

"If we separate the ordinary, from the occasional appearances here described, we shall find, that the statements of Dr. Yelloly and Dr. Baillie in some measure correspond: the former has however suggested, that when coagulable lymph is thrown out in the substance, or on the surface of the villous coat, it is to be deemed an unequivocal indication of previous inflammation. But this is a rare occurrence in dissections, and it may be also, that thick mucus will sometimes assume the appearance of coagulable lymph. Certainly there is a danger of confounding the ordinary vascularity of the stomach, with the indications of *slight* inflammation, *and such indeed as we may expect to find in many cases of poisoning*."

We trust our readers will be able to form an idea of the object and execution of this work, from our imperfect enumeration of its contents.

BIOGRAPHY.

BIOGRAPHICAL NOTICE *of the late* CORNELIUS WILLIAM VAN DEN HEUVEL, M. D. *of Schenectady, New-York.* By T. ROMEYN BECK, M. D. of Albany.

THE learned foreigner, who is the subject of the present article, resided some years in this State, and held an important situation in one of its literary institutions. At an early age, however, and just when his talents and acquirements were developing to the public view, he descended to the grave. A brief memorial of his life, under these circumstances, cannot prove uninteresting.

Dr. Van Den Heuvel was a native of the town of Vlaardingen, in South Holland. This place is situated on the Maese, and is distant about seven or eight miles from Delft, and six from Rotterdam.

The family of Dr. V. D. H. was respectable and extensive. Different branches of it were, and probably are still, resident in the provinces of Guilderland, Holland, and Utrecht. His father was a wealthy merchant, who, having once filled the highest office in Vlaardingen, that of Burgomaster, remained afterwards, according to the custom of Dutch cities, one of its presiding magistrates. Having passed his childhood in his native place, Van Den Heuvel was sent, at the age of about eleven or twelve, to the Latin school in the city of Delft, where he pursued classical studies for six years. At the expiration of this period, he repaired to the University of Leyden, and devoted himself to the study of the medical profession. He had not long resided there, before he obtained the friendship of Dr. Peter Van Schelle, an eminent scholar and highly respected physician. He also, within a short time, became an intimate associate of John Theodore Van Der Kemp, then a captain of the dragoon guards in the Dutch service, and afterwards a graduate in medicine of the University of Edinburgh. By the latter gentleman, Van Den Heuvel was introduced to Dr. Francis A. Van Der Kemp, now of Oldenbarneveld, in this State. "The first impression," says this learned and venerable individual, "of his awkward appearance, was soon entirely effaced by his literary acquirements, increasing day by day by his unrelenting and indefatigable exertions. He was soon distinguished by his instructors; and was considered by a Van Doveren, Sandifort, and Voltelen, as one who would enhance the merit of this useful profession, and contribute to the glory of his country. He was certainly indebted in part, for that opinion of his future prospects, to his ardent but unbiassed friends Van Der Kemp and Van Schelle, but chiefly so, to his own merits in every branch of physic."

The Inaugural Dissertation, published by Dr. Van Den Heuvel on graduating as Doctor of Medicine at Leyden, is of a magnitude sufficient to startle the young aspirant after professional honours. It consists of an octavo volume of 428 pages, and is dedicated to his father, in the most affectionate terms. The subject of it is a new Nosological Arrangement of Diseases, founded on the "*vitio vis vitalis*," as he styles it; and the general rule which appears to have guided him, was to select the leading feature in the affection, and to classify it accordingly. This he calls the *principium morbi*, and thus discards the unphilosophical term of the "proximate cause." The accessary characters, which make up the remaining history of the disease, he conceives, are founded on it; and their conjunction in this way appeared to him as altogether forming a system well calculated for practical purposes, and eminently qualified for teaching the diagnosis, prognosis, and cure of diseases. The general divisions proposed by him are as follows:

1. Diseases from defect in cohesion, either greater or less than what is natural.

2. Diseases from defect in the vital power.

3. Diseases arising from some irritating cause introduced, as poisons.

4. Diseases arising from defects in the solids merely as instruments, as deformities, malformations, &c.

5. Diseases arising from defects in the fluids merely as instruments, as plethora, deposition of humours, &c.

The greater part of the volume, however, is occupied in considering the second class, and he has certainly brought into it a great mass of information relating to the history of diseases. He subdivides it into five orders: diseases accompanied with increased irritability—with increased impetus of the vital power—with diminished irritability—with diminished or destroyed impetus of the vital power—and lastly, diseases arising from some anomalous action of the vital power, either producing peculiar affections not referrible to the previous orders, or exciting a morbid secretion which characterizes the individual complaint. Fevers are arranged under the second order, together with inflammations generally; while in the fifth, or anomalous class, the exanthemata of Cullen, with hydrophobia, lepra, pellagra, cancer, syphilis, &c. are placed. All these are again subdivided into species, their peculiarities noted, and their important characteristics brought together, in a masterly manner.

Whatever may be thought of this arrangement, it will at least be allowed that its developement evidences talent, while its preparation must have rendered him familiar with the history of disease, and thus fitted him for contending successfully with it in after life.*

On leaving the University, which was probably about the year 1785, Van Den Heuvel's thirst for knowledge led him to visit foreign countries. He repaired, in succession, to London, Edinburgh, and Glasgow; and after enjoying the benefit of instruction in these places, he crossed the channel, and proceeded to Paris. Here he attended the medical, surgical, and botanical lectures for about six months; and finally, with the same object, completed his scientific tour, by travelling to Vienna. Before his return home, however, he, in company with a single friend, performed a pedestrian tour over Switzerland, for the purpose of collecting plants, and of visiting the learned men of that country.

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* The writer has never met with any notice of Dr. Van Den Heuvel's Nosology, except in the Edinburgh Medical and Surgical Journal, vol. IX. p. 242., where his name is quoted from Pinel's "*Nosographie Philosophique*," with other authors on this subject. The title of Dr. Van Den Heuvel's Dissertation is as follows: "*Tentamen Nosologicum sistens morborum a vitio vis vitalis divisionem, et dispositionem practicam, a maxime fundamentali morborum parte, quantum per abditam multorum naturam licuit, desumptam,*" &c.

After an absence of two years, he returned to his father's house, enriched with all the stores of knowledge, that a course of observation, so well devised, could afford. He appears also to have married about this time; and thus, after a youth employed in every thing that promised to raise him to a high rank in the profession, he was on the eve of fulfilling the sanguine and just anticipations of his friends. But he found his country a prey to civil confusion, and the ardour of his mind soon led him to take an active part in the struggles then making. He was a republican; and when the party to which he was attached proved unsuccessful, was obliged to leave his native land. This was in 1787. He hastened to France, and was cordially received at the Castle of Watte, by Col. A. G. Mappa (now of this State) and other distinguished patriots.

The period of his residence in France was about three years. His friends Col. Mappa, and Dr. F. A. Van Der Kemp, had already crossed the Atlantic, and found an asylum in the United States. Thither he resolved to follow them. He landed at Baltimore, and while there, made several botanical excursions in its vicinity. He prepared descriptions and drawings of the new plants which he had noticed, and these were subsequently seen by several of his friends. The first permanent residence that he determined on, was in the State of New-Jersey; but after continuing in it about a year, he removed to the city of Schenectady, and entered into a medical partnership with the late Dr. Van Ingen of that place. Here his talents soon attracted the notice they deserved. His medical skill became a subject of general attention, and his reputation extended throughout the country. Pursuing his profession with rapid and increasing success, his scientific acquirements could not fail of also becoming known. In 1795, the academy at Schenectady had obtained a collegiate charter, under the name of "Union College." The distinguished John Blair Smith, D. D. of Pennsylvania, was its first President, and in selecting its subordinate officers, Dr. Van Den Heuvel was appointed its first Professor of Mathematics and Natural Philosophy. He accepted the office in 1798, and entered on its duties with the ardour so characteristic of him. Although labouring under the disadvantage of an imperfect knowledge of the English language, and conveying his ideas in an idiom which seems of all others to be preferred as a theme of ridicule, he still gained on the esteem of the trustees and the affections of his pupils. His knowledge was so extensive, and his acquaintance with modern discoveries so complete, that he could not fail of attracting attention, and inspiring respect. But after performing the duties of his station for one year, he was seized with a febrile disease, and after lingering for some time, at last fell a victim to it. He died in 1800, aged probably thirty-eight or thirty-nine years.*

The brief narrative now given, is pregnant with many interesting, as well as melancholy reflections. It presents a morning, without a cloud, but a noon-day, dark and overshadowed. Those convulsive struggles which Europe has experienced for the last forty years, drew the subject of this sketch within their influence, and he, who with certainty could look forward to scientific and political distinction in his native country, was through their means driven from it an exile and a wanderer. In this country he was received and cherished by the descendants of former emigrants from the

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* In the "*Catalogus Senatus Academici in Collegio Concordiæ, &c.* 1819," he is stiled LL. D. This is unquestionably a mistake, unless he received that honour in this country. The only collegiate distinction which, it is believed, he obtained, was that of Doctor of Medicine.

"*Father Land*;" but alas, when about repaying that duty which every one owes to the land of his birth or his adoption, his days were numbered, and his services ended. It is vain now to anticipate what he might have done, or accomplished. It is sufficient that while living he endeavoured to excel in those acquirements which dignify the mind of man, exalt its conceptions, and elevate its powers.*

Medical and Philosophical Intelligence.

DOMESTIC.

Medical Society of the State of New-York.—We have just received the Transactions of this Society at its last annual meeting, and shall briefly notice some of its more important proceedings. The Society met, according to the statute of the State, at the Capitol in the city of Albany, on the 3d of February, 1824. The following gentlemen took their seats as Delegates from their respective County Societies, viz.

Dr. Alexander Coventry, Oneida, *President.*
— John H. Steel, Saratoga, *Vice President.*
— Charles D. Townsend, Albany, *Secretary.*
— Jonathan Eights, Albany, *Treasurer.*
— Laurens Hull, Oneida.
— T. Romeyn Beck, Albany.
— William Bay, do.
— Peter Wendell, do.
— Henry L. Van Dyck, Columbia
— Truman B. Hicks, Warren.
— Henry Van Hovenburgh, Ulster.
— Daniel Ayres, Montgomery.
— Erastus D. Tuttle, Cayuga.
Dr. Gamaliel H. Barstow, Tioga.
— Abram Allen, Washington.
— E. Wallace, Westchester.
— Cornelius H. Van Dyck, Schoharie.
— Stephen Todd, Herkimer.
— James R. Manley, New-York.
— John B. Beck, College of Physicians and Surgeons, New-York.
— Ralph P. Allen, Clinton.
— Thomas Spencer, Madison.
— Royal Ross, Chenango.
— John L. Cleveland, Yates.
— Horatio Orvis, Jefferson.
— Eliel T. Foote, Chautauque.
— John Van Name, Rensselaer.
— Amos Botsford, Greene.

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* For many of the facts contained in this imperfect sketch, the writer is indebted to the kindness of Col. A. G. Mappa, and Dr. F. A. Van Der Kemp.

Among other subjects of importance submitted to the consideration of the Society, we look upon the establishment of annual prize questions, as not the least interesting. The questions for the present year are—

1. *The History, Causes, and Treatment of Whooping Cough.*
2. *The remote and exciting Causes of Phthisis Pulmonalis.*

The following regulations were at the same time adopted by the Society:

1. That in treating of the diseases mentioned above, it be required that particular attention be paid to their history, nature, and causes, in this state.

2. That the prize offered be in each case *fifty dollars.*

3. That the Secretary give public notice of the subjects offered, on or before the 1st of March next.

4. That the Dissertations offered for premiums be forwarded to Albany, on or before the 1st of January, 1825. That they be accompanied with a sealed paper, containing the name of the author, and that this sealed paper, as well as the Dissertation, be endorsed with the same motto, in order that the name of the successful author alone may be ascertained.

5. That ———————— be a committee to examine and report on the Dissertations that may be presented.

6. That it be understood, that the Society is at liberty to dispense with the adjudication of any premiums, provided the Dissertations presented to the committee may not by them be deemed worthy.

Several applications for the incorporation of additional Medical Colleges in this State having been presented to the Regents during their present session, we are much gratified to find that the Society turned its attention to this important subject, and adopted the following resolution, viz.

"*Resolved*, That in the opinion of this Society, the increase of Medical Colleges in this State is not required for the public good, and that it would be decidedly injurious to the best interests of the profession at present, to charter any additional medical schools."

This resolution was transmitted to the Regents, and we are happy to add that, since that time, that honourable body has rejected all the applications made to them. After this very decided expression of opinion on the part both of the Regents and the profession, we sincerely hope that we shall not very speedily have this subject again agitated. We have already two highly respectable Medical Institutions in this State, abundantly sufficient, we conceive, for all our wants. If we wish them to maintain the character which they have at present acquired, we shall be extremely cautious how we increase their number.

The following are the officers for the ensuing year:

Dr. ALEXANDER COVENTRY, Oneida, *President.*
— JOHN H. STEEL, Saratoga, *Vice President.*
— CHARLES D. TOWNSEND, Albany, *Secretary.*
— JONATHAN EIGHTS. do. *Treasurer.*

Censors.

Dr. Felix Pascalis,	Southern District.
— James R. Manley,	
— Charles Drake,	
— William Bay,	Middle District.
— T. Romeyn Beck,	
— Peter Wendell,	
— Abram Allen,	Eastern District.
— Daniel Ayres,	
— Truman B. Hicks,	
— Laurens Hull,	Western District.
— E. D. Tuttle,	
— Luther Guiteau,	

MEMOIRS *of the* BOARD OF AGRICULTURE *of the State of New-York.*
Vol. II.

This volume has been published during the past year, and contains many valuable papers relating to theoretical and practical Agriculture. Those which we consider most interesting, are, a "Geological and agricultural survey of Rensselaer County," and a "Report of the Geological Structure of the County of Saratoga." The latter is the production of Dr. John H. Steel, who also presents to us in this volume an account of the mineral waters of the county of Saratoga. In both these papers, the author furnishes evidence not only of persevering industry, but of scientific acquirements. The survey of Rensselaer county was made by Professor Eaton, under the direction and at the expense of the Hon. Stephen Van Rensselaer. It reflects the highest honour upon this distinguished individual, whose zeal to advance the interests of science is only equalled by his munificence. It is with great pleasure that we mention, that not content with the scientific examination of two large and populous counties, a geological and agricultural survey of the country bordering on the Western Canal, from Albany to Buffalo, has been commenced under his patronage, and at his expense, and will be completed during the ensuing summer. These facts deserve to be recorded, inasmuch as they furnish examples as rare as they are splendid, of private wealth contributing to the advancement of science, and the promotion of the public good.

This volume also contains a valuable treatise upon gardening, by J. Armstrong of Dutchess county, with numerous other papers upon the management of live stock, the cultivation of fruit-trees and grapes, upon kitchen gardening, &c., which must be highly interesting to the agricultural part of the community. We cannot omit mentioning, that among these are several communications from Mr. G. W. Featherstonhaugh of Duanesburgh, and Mr. Jesse Buel of Albany, gentlemen whose zeal and activity have in a great degree identified them with the institution by which this volume is published. Our limits forbid a more detailed notice of this interesting work; but we cannot conclude this brief notice, without recommending its attentive perusal to all those who are in any way engaged in agricultural pursuits, nor without expressing a hope that the Legislature will make an ample appropriation for the support of an establishment, which, in the present publication, furnishes the most satisfactory evidence of its increasing usefulness.

UNIVERSITY OF THE STATE OF NEW-YORK.

Graduates of the Doctorate in Medicine of the College of Physicians and Surgeons in the City of New-York. April 1824.

NOVA SCOTIA.

1. William B. Webster, *on the Hip Joint.*

MASSACHUSETTS.

2. Clarke Wright, *on the Digestive Organs.*

RHODE ISLAND.

3. James D. Peckham, *on Dysentery.*

NEW-YORK.

4. Augustus A. Adee, A. B. *on Gun Shot Wounds.*
5. Henry I. Anderson, A. M. *on the Laws of Chemical Combination.*
6. De Witt Birch, *on Diarrhœa.*
7. Cornelius R. Bogart, *on Anthrax.*
8. John Cole, *on Infantile Remittent Fever.*
9. Edward C. Cooper, *on the Absorbents.*
10. John Clapp, *on Dysentery.*
11. Amos W. Gates, *on the Influence of the Mind on Diseases.*
12. Rensselaer Gansevoort, A. B. *on Leprosy.*
13. William A. Hunter, *on the Mind and Body.*
14. Frederick G. King, A. B. *on the Nervous System as known to the Ancients.*
15. Howard Lee, *on Opium.*
16. William S. Lobdell, *on the Modus Operandi of Medicines.*
17. Philip E. Milledoller, A. B. *on Empiricism.*
18. Washington Murray, A. M. *on the Morbus Coxarius.*
19. Robert Maclay, *on Anatomy.*
20. John R. Rhinelander, *on Typhus Fever.*
21. Giles M. Richards, *on Diabetes.*
22. Archelaus G. Smith, *on Morbid Sympathies.*
23. Richard T. Underhill, *on Sulphate of Quinine.*

24. George Wilkes, A. B. *on Diabetes.*
25. Abraham V. Williams, *on the Absorbents.*

NEW-JERSEY.

26. Joseph C. Arnold, *on Hereditary Diseases.*
27. George R. Chetwood, *on Trachitis.*
28. Joseph B. Jackson, *on Hernia.*
29. John A. Pool, *on Urethritis.*
30. Hatfield Smith, *on Compound Fractures.*

PENNSYLVANIA.

31. Samuel Carey, *on Intermittent Fever.*

DELAWARE.

32. James S. Rumsey, A. B. *on Dyspeptic Phthisis.*

VIRGINIA.

33. La Fayette Brown. *on the Magnolia Glauca.*
34. Rolling Jones, *on the Influence of the Mind.*

NORTH CAROLINA.

35. Hugh Ferriar, *on Disease.*
36. Bucknor Hill, *on Angina Pectoris.*
37. William R. Minor, *on Marsh Miasmata.*

SOUTH CAROLINA.

33. Charles F. Godbold, A. B. *on Phlegmasia Dolens.*
39. Robert M. Gourdine, A. B. *on Cantharides.*
40. William S. Johnson, *on Hepatitis.*
41. Frederic B. Tudor, *on the Physionomy of Disease.*
42. J. S. McLeod, *on Otitis.*

OHIO.

43. Jonathan J. Tod, *on Puerperal Fever.*

MISSISSIPPI.

44. George C. Ferguson, *on the Humulus Lupulus.*

College of Physicians and Surgeons of the Western District, New-York.

From the circular of this institution it appears that the number of students, during the past session, amounted to ninety-six. The degree of Doctor of Medicine has been conferred on the following young gentlemen.

1. John R. Brown, *on the Nervous System.*
2. John B. Crouse, *on the Causes of Disease.*
3. Daniel Ely. *on Perspiration.*
4. Isaac Freeman, *on Sulphureous Waters.*
5. James F. Johnson, *on the Diarrhœa of the army at Sackett's Harbou in* 1814.
6. Benjamin Miller, *on Dysentery.*
7. William M. Weber, *on the Modus Operandi of Medicines.*
8. Menzo White, *on Coxalgia.*

Larrey's Essays.—A volume of Surgical Essays, from the French of the distinguished Baron Larrey, has lately been published by Dr. Revere of Baltimore. Our readers may remember the valuable Memoirs of Military Surgery drawn up by the Baron, which made their appearance in 1815 in an English dress, from the pen of Professor Hall of the University of Maryland. The present work, by Dr. Revere, embraces several highly interesting essays. The first, that on the use of the Moxa is the most elaborate. The titles of the other papers are, on the Seat and Effects of Nostalgia; on the Properties of the Iris; some Observations on Wounds of the Intestines; on Fractures of the Neck of the Femur; and lastly, on Wounds of the Bladder.

Wistar's Anatomy.—A new edition of this very valuable work has just appeared, enriched with many additions by Dr. Horner, adjunct Professor of Anatomy in the University of Pennsylvania.

The *Elements of Physiology*, by *Richerand*, have also been published at Philadelphia. This edition is from the translation by De Lys, and includes the Notes which formerly were made by Professor Chapman. The translation is stated to be corrected, and the late improvements in the science are added by Dr. Godman, Lecturer on Anatomy and Physiology.

Neuralgia.—An interesting case of this painful affection, which had existed for twelve years, and resisted the numerous means that had been adopted for its removal, has lately yielded to the remedial powers of the carbonate of iron. The patient was a female aged about forty-six. We expect the particulars of the case drawn up by her physician, Dr. McLean of this city.

New Galvanic Apparatus.—Dr. Greenhow, a young chemist of this city, has recently invented a new form of the Galvanic apparatus, which has been pronounced, by scientific gentlemen, to possess many striking and important advantages over all others hitherto used. We are promised a detailed account of it for our next number.

FOREIGN.

Effects of Iodine in Scrofulous Affections.—Mr. Delisser, of 55, Judd Street, Brunswick Square, London, Extraordinary Vaccinator to the National Vaccine Establishment, has sent to us an account of several cases, in which he used various preparations of iodine with good effect. A young unmarried woman of 19, had been affected, for 2½ years, with a scrofulous swelling of the knee, and contraction of the joint. After leeching, a liniment of one drachm and a half of iodine, dissolved and diffused through an ounce and a half of rectified spirit of wine, was ordered to be rubbed on the knee twice a day, for an hour each time. In ten days, the proportion of iodine was increased to two drachms to the same quantity of spirit. The knee was perfectly restored to its healthy state in about a month after the frictions with iodine were commenced; but, to confirm the cure, a plaster of half an ounce of iodine, with an ounce of strengthening plaster, was applied. The liniment smarted the leech-bites when recent (probably from the alcohol it contained.) but afterwards excited no eruption, redness, or heat. The only obvious effect was pain in the œsophagus, and if the thyroid, or cricoid cartilages were pressed, of soreness along the throat, and constant dryness of the glottis; and Mr. D. observes that every patient with whom he has used iodine, has made the same complaints.

The next patient was a child three years of age, born of highly scrofulous parents, and itself affected in an extreme degree. The iodine was given internally. One drachm was dissolved in ten drachms of spirits; and of this tincture, 15 drops were made into a mixture, with half an ounce of gum arabic, and as much anise water, and taken daily in three equal portions. On the 11th day the daily dose was increased to 30 drops, on the 21st to 60, on the 45th to 75, and a fortnight afterwards it was discontinued. The child recovered completely, having taken 222 grains of iodine in less than two months.

The third case was one of a lady with scirrhous breast, for which amputation was prescribed. On the 19th of June she began to take a pill, containing one grain of iodine, and two of hemlock powder, three times a day. The doses of the medicines were gradually increased until about the 22d of July, when she began to take 30 grains of iodine, and 18 of hemlock, every 24 hours, which large dose was continued until August 1st. Her appetite then failed: the pulse, which on the 17th June was 70, rose to 130; her mouth fell into a sort of ulceration, with fetid breath, differing, however, from that caused by mercury, and, if possible, more disagreeable; but her complaints were little relieved, and the medicines were discontinued. On the 9th, the symptoms ascribed to it had entirely disappeared. Its use was resumed on the 9th, to the extent of 30 grains daily; but on the 20th, all the former symptoms returning, and the patient having derived no benefit from it, it was finally abandoned. This lady took in all, between the 19th of June and the 20th of August, 1019 grains, being the largest quantity of iodine ever taken by any individual.

These trials, so far as they go, confirm the observations of Dr. Coindet senior, on the specific virtues of iodine in scrofula, while they show that it is inadequate to the removal of true scirrhus. We have preferred giving this brief account of Mr. Delisser's communication to withholding the detail for a future Number, that others may be induced to make trial of it in one of our most common and intractable diseases. At the same time, we must caution our readers, that the doses given by Mr. Delisser are much larger than those given by Dr. Coindet. His tincture was made with *one* part of iodine to *twelve* of spirit; and in this form he never gave more than 20 drops three times a day, or six grains of iodine (72 to the drachm,) daily: and two ounces of the tincture, or 96 grains of iodine were considered an ample quantity for a full course of the medicine, and sufficient to remove the most obstinate goître. We should also caution our contributors, that on account of its insolubility, the form of pill is the least eligible; and that the iodine itself is very inferior to some of its combinations, both in efficacy and in convenience.—*Edin. Med. and Surg. Journal, Jan.* 1824.

Case of Elongation of the Uvula, producing Symptoms of Chronic Pneumonia.—Madame G—, aged thirty, born of healthy parents, had suffered no severe illness from her infancy, when, in the month of January 1822, she became affected with slight cough, to which she at first paid little attention, attributing it to the dampness of the atmosphere and her exposure to cold. This lady was the mother of two children, who were exempt from disease, although of a scrofulous constitution. Nothing announced a predisposition to chronic disease of the respiratory organs; nevertheless, her cough gradually increased till the month of April, when her ordinary medical attendant was consulted. He prescribed various pectoral remedies, without avail: the cough made new progress, and, in the month of August, Madame G, was supposed to be affected with chronic inflammation of the lungs, accompanied with tubercles already developed. Various active means were had recourse to, calculated to retard the progress of the disorganization.

M. Cuynat was called in on the 20th of December, 1822, when he observed the following symptoms:—the respiration was constrained, and there existed considerable constriction of the chest, within the cavity of which were felt sharp flying pains, which were increased during the cough and full inspiration. The patient made continual efforts either to swallow or to expel the mucus of the throat; a fixed pain, accompanied with tickling, existed in the larynx; the appetite was almost gone; the tongue was sometimes white, and sometimes natural; the countenance pale; emaciation extreme. The languor both of body and mind of Madame G. seemed to announce the profound lesion of some important organ. The chest, however, examined with much care was sufficiently sonorous at every part, except the upper, where the sound appeared rather dull. The pulse was sometimes small and unequal, and at others full and frequent; it often passed from one of these states to the other in the space of half an hour. Having examined the fauces, M. Cuynat observed that the uvula was elongated, and rested on the root of the tongue, being the seat of a serous enlargement; and he conceived that all the evils experienced by the patient arose from this cause. He discontinued the use of all internal remedies, and proposed the removal of the superabundant portion of the uvula, as the only means of getting rid of the symptoms. This being agreed upon, the operation was performed on the following day.

The patient was seated opposite a window, with the head supported against the chest of an assistant, and the jaws were kept apart by a roll of linen placed between the molar teeth. The operator then laid hold of the uvula with a pincers, and, pulling it gently, cut off a sufficiently large portion with a blunt-pointed bistoury. No considerable bleeding followed the operation, which was attended with little pain ; and the wound was healed under the use of a gargle made of wine and honey, which restored its natural tone to the velum of the palate. The lady entirely recovered.—*Revue Médicale*, September.

Obliteration of the Œsophagus, in consequence of Inflammation.—A young man, aged twenty-four years, was admitted into the Hotel Dieu at Lyons, having swallowed a glass of aquafortis two years previously. He escaped from the first symptoms, which were violent, but a degree of inflammation remained in the pharynx and œsophagus, which prevented him for a long time from being able to swallow any thing except a little milk and water. The power of swallowing was afterwards lost, and the fluid could only be carried into the stomach by means of a hollow bougie ; a still more complete stricture of the œsophagus did not permit even the sound to pass. In this state the patient presented himself to M. Dupuy, on the 18th of May, 1822. The impossibility of introducing food into the stomach induced him to have recourse to nutritive enemata of soup. The unfortunate patient, tormented by hunger which could not be appeased, was wretchedly emaciated, and affected with violent fever : his eyes were sunk, his tongue red, his belly retracted, and he had continual hiccough. At last, on the 28th, he died of inanition, in the most acute anguish. On opening the body, the œsophagus was found completely obliterated for four inches at its inferior extremity ; the stomach was slightly inflamed.—It is suggested that, if it had been possible to have left the sound in the œsophagus, the power of introducing nourishment might have been retained, and the life of the patient prolonged.—*Bulletins de la Société Medicale d'Emulation de Paris*, Juin.

Chlorine, with Water, employed in the Treatment of Scarlatina.—Dr. Braun, who details the advantages of this remedy, carries his enthusiasm so far as to call it a specific in scarlet fever. During ten years he has employed it successfully in the most complicated cases. Chlorine mixed with water, he says, destroys contagion ; and the cure is seldom followed by any consecutive disease. He gives this medicine in the dose of a tea-spoonful every two or three hours, to children from three to six years of age, and, to those of a more advanced age, a table-spoonful in the same intervals. It is given without the addition of any other medium, as the chlorine is decomposed in most mixtures. It should be swallowed quickly, lest it should produce cough. M. Braun observes, that, in the sore-throat which often accompanies the scarlet fever, this water is more easily swallowed even than mucilaginous drinks. As soon as the disease begins to decline, he only prescribes the medicine in the dose of one or two spoonsful in the day. The whole quantity taken during the disease has never exceeded two ounces in the cases of children, and four or five ounces in those of adults. If this medicine is given in greater doses, it brings on vomiting and frequent alvine evacuations: if it is not fresh, or has been exposed to the atmospheric air, it produces slight excoriations of the lips. M. Hufeland had already recommended this remedy in nervous and typhus fevers.—*Revue Medicale*, Juillet.

Case of Chronic Hydrocephalus in an Adult Female.—In one of the late Numbers of Hufeland's Journal, the case of a female, aged eighteen years, is detailed, who died of hydrocephalus, under which she had laboured during fifteen years. The dissection of her head presented the cranium almost completely ossified: it was only slightly transparent in the situation of the fontanells. The circumference of her head was twenty-six inches and a half; the antero-posterior diameter was ten inches and a half; the transverse diameter eight and a half; the vertical diameter eight and three-fourths; the oblique diameter thirteen inches and three-fourths; and the whole length of the body was fifty-four inches and a half. Between the brain and its meninges, about twenty ounces of a yellowish fluid were found. The brain itself, in which could no longer be detected the usual anatomical disposition of parts, and which offered more the appearance of a kind of pulpy sac than a natural brain, contained about nine ounces of a similar fluid.

The aqueous accumulation extended also to the spinal column, forming the complication of hydrocephalus with dropsy of the spine. The vertebral column was inspected, and the spinal chord found only to fill half the canal; above two ounces of fluid escaped on opening it. Although the patient had sustained this disease for fifteen years, she enjoyed notwithstanding, until the two last months of her life, all her faculties. Her catamenia were always regular, and even abundant.—*London Medical Repository.*

Case of Intus-Susception, followed by the Evacuation, per anum, of about 30 *inches of Small Intestine and a Portion of Mesentery.* By MM. Bouniol and Rigal fils.—At a late meeting of the *Académie Royale de Médecine*, M. Larrey read a report, in his name, and in that of MM. Roux and Béclard, on a case under the above title. The individual who was the subject of it had laboured under violent dyspepsia, after which he was attacked with every symptom announcing internal strangulation, such as complete suppression of the alvine evacuations, vomiting of fæcal matter, hiccup, and severe pain of the abdomen, with an elevated tumour, very sensible to the touch, in the right iliac region. At the end of twelve days, after violent pain in the bowels, the portion of intestine above mentioned was evacuated per anum. From this time the patient rapidly improved, a painful sensation in the right iliac region being the only inconvenience remaining. At the end of about three months, this individual, after having eaten a large quantity of cherries, was attacked with symptoms of peritonitis, and died. Permission could not be obtained to open the body. The preparation sent to the *Academie* certainly resembled, in every respect, a portion of intestine and mesentery. M. Larrey supposes, what is indeed the only rational supposition, that a portion of intestine, invaginated, strangulated, and struck with gangrene, had become separated from the living tissues, and had entered into the great intestine, whence it had been evacuated. By a successful effort of nature, both ends of the living intestine, coming in contact, had reunited.—*Revue Medicale*, Août, 1823.

Efficacy of the Chloruret of Lime as a disinfecting Agent.—Messrs. Orfila, Lesueur, Gerdy, and Hennelle, having been requested by the *Procureur du Roi* to examine the body of an individual who was supposed to have been poisoned, and who had been dead for nearly a month, found the smell so insupportable, that they were induced to try the application of the chloruret of lime, as recommended by M. Labarraque in the pamphlet to which we had occasion to refer in our last Number. A solution of this substance was frequently sprinkled over the body, and produced quite a marvellous effect; for scarcely had they made a few aspersions, when the unpleasant odour was instantly destroyed, and the operation could be proceeded in with comparative comfort.—*Archives Générales de Médecine*, Août, 1823.

On the Exhalation of Carbonic Acid during Respiration. By Dr. Edwards.—This eminent physiologist has communicated to the French Institute the result of numerous experiments which he has made respecting the exhalation of carbonic acid during expiration. He proves that carbonic acid does not form instantaneously in the lungs through the action of the respired air, but that it is secreted from the blood in the respiratory organs. Dr. Edwards placed some cold-blooded animals in perfectly pure hydrogen. The respiration was kept up for several hours in atmospheric air; and he discovered, after this lapse of time, the presence of a quantity of carbonic acid, nearly equal to that which would have been effected in atmospheric air.—*Revue Medicale*, Août, 1823.

On the Transmission of Contagious Principles, from the Lower Animals to the Human Species. By Professor Remer, of Breslau.—One great question in pathology is to ascertain if Hydrophobia and Vaccinia are the only maladies which may be transmitted from the lower animals to man: or if a similar transmission may likewise take place in other diseases to which animals are subject; and in the latter case, what are these diseases? In order to solve this question, M. Remer adduces a number of facts, which prove, in a very conclusive manner, that certain other disorders, such as the virulent coryza of horses, the plica of animals covered with hair, the gangrenous inflammation of the spleen, which occurs in cows, &c. may, from immediate contact, be transmitted from the animal to the human species, and there give rise to diseases entirely resembling those which gave them origin.—*Archives Génér. Sept.* 1823.

On the Direct Passage of Substances into the Blood. (*Journal Complementaire, &c., Septembre* 1823, xvi. 235.)—Although the frequently repeated experiments of Flandrin, Magendie, Mayer, Gmelin and Tiedemann, leave little doubt as to the direct passage of many substances into the venous system, it gives us additional pleasure to notice a farther confirmation of them by a skilful physiologist, M. Westrumb of Hamelin. His experiments are the following. The sulphuretted hydrocyanate of potass, indigo, rhubarb, oil of turpentine, were injected into the stomachs of dogs and sheep: and after various intervals of time, the animals were killed and carefully examined. When a mixture of indigo and oil of turpentine had been used, and the animal was killed 5 hours after the beginning of the experiment, the two substances were plainly manifested to the sight and smell in the whole tract of the intestines, as well as in the blood of the vena portæ, in the substances of the lungs, liver, and kidney, and in the urine; but not a vestige could be recognised in the glands of the mesentery, or in the chyle. The oil of turpentine and the hydrocyanate of potass were given to a sheep in repeated doses during four days, and it was killed half an hour after the last dose. Neither of these easily detected substances could be found in the lymphatic vessels or glands of the mesentery, or in the thoracic duct; but both of them were very obvious in the liver, kidney, spleen, and blood of the vena portæ. Similar results were obtained with the decoction of rhubarb, and the sulphuretted hydrocyanate of potass. Tying the thoracic duct near its termination did not alter the phenomena. The researches of Westrumb likewise confirm those of former experimenters as to the extreme rapidity of the venous absorption. He detected rhubarb in his own urine five minutes after swallowing an ounce of its infusion; and after the same period in rabbits, but not earlier. Half a grain of the hydrocyanate of potass given to a little dog, became sensible in the urine *at the end of two minutes.*

A new Remedy for excessive Salivation.—Dr. Kruger-Hausen, of Gostrow, has given an account of a man who, during a state of excessive salivation, attended with hemorrhage from the gums, had employed the usual astringent gargles without benefit, who afterwards covered his tongue and inside of his mouth and fauces with tar, by means of a brush. He soon afterwards recovered, without any other remedy. Dr. K. has since employed the same means in several cases, with the effect of quickly removing this disagreeable consequence of medical treatment, without any inconvenience resulting from this new method.—*Rev. Med.* Juillet 1823.

I. *Experiments on the Therapeutical Properties of Strychnine.* By M. Andral, *fils.*—The strychnine which M. Andral exhibited in the following cases was as pure as could be obtained, and was entirely deprived of brucine (see the subsequent experiments with this substance), to which it remained united in the preparations which M. Pelletier first made of it. It was given in the form of pills, some containing the twelfth part of a grain, others the sixth of a grain.

Case 1*st.*—A house-painter, after having been several times affected with colic, was attacked with that variety of paralysis to which this class of mechanics are subject, and which consists in a great weakness of the extensor muscles of the hand. The paralysis had been ineffectually treated by stimulating frictions on the fore-arm. This individual took on the first day a pill, night and morning, each containing half a grain of this alkali. He experienced a painful trembling in the extensor muscles. On the three following days the same dose was attended with like effects. Four pills of the same strength were given on the fifth, sixth, and seventh days, two night and morning. The effects were slight shaking of the limbs, spasmodic contraction of the extensors of the fingers, and a diminution of the paralysis. Pills of one-sixth of a grain each were then given, commencing with one, and afterwards increasing them to four at the end of eight days. During this time he experienced violent shocks. He soon left the hospital (La Charité), only retaining a slight weakness in his hands.

Case 2*d.*—A compounder of colours was affected with a similar form and degree of disease to the preceding. A single pill, containing one-twelfth of a grain, occasioned slight trismus, and incipient tetanic stiffness in the muscles of the neck, the abdomen, and the limbs. The next day he took another pill, and experienced only some spasmodic contractions in the limbs. At the end of six pills, a pill was prescribed for him, night and morning: violent contractions of both arms took place. The strychnine was continued at this dose for fifteen days; at the end of this time the paralysis had disappeared.

Case 3*d.*—A German, of a strong constitution, who had long laboured under paralysis of the extensors of both hands, from the effects of the preparations of lead, took a pill of one-twelfth of a grain, without feeling any effects from it. At the dose of one-third of a grain, he began to experience some shocks. He took somewhat too speedily a little more than a grain of this alkali: at this dose he experienced such forcible contractions, that it was necessary to reduce it to a grain. This man was not benefited by it. This case, compared with the preceding, shows how much the action of strychnine may vary according to the susceptibility of the subject.

Case 4*th.*—A man accustomed to work in white lead had the same sort of paralysis as the preceding. A pill containing one-twelfth of a grain of strychnine produced in him violent trismus; the next day he took a like quantity, and this time felt no effect. Two pills produced strong shocks in the limbs. In a short time the dose was increased to two-thirds of a grain: this quantity could not be exceeded owing to the supervention of tetanic symptoms. This patient was relieved.

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* The following experiments were made at La Charité, in the wards of M. Lerminier.

Case 5*th.*—In a potter, paralysed as the former, the dose of strychnine was raised, in twelve days to one grain. He experienced weak contractions only. When this dose was exceeded, locking of the jaws, and throwing of the head backwards, supervened. Terrified by these unpleasant symptoms, the patient would take no more pills, and left the hospital without being relieved.

Case 6*th.*—A man was admitted into the hospital with incomplete paralysis, which had been ineffectually treated by blisters, moxas, and cauteries, applied on the lumbar region: there was no deviation of the spine. A pill, consisting of one-twelfth of a grain, did not produce any effect; two pills occasioned slight convulsions of the inferior limbs: they were carried to the extent of four a day (a third of a grain). This dose gave rise to somewhat acute pain in the lumbar region, and at the same time to stiffness in the inferior limbs only, and to notable augmentation of the paraplegia. The strychnine was discontinued.

M. Andral considers the paraplegia in this individual as probably the result of a lesion of the spinal chord, which the strychnine seemed to aggravate.

Case 7*th.*—An old man, who had been long affected with complete paraplegia, took three pills of one-twelfth of a grain each, without feeling any effect. Four pills (a third of a grain) caused slight contractions in all the limbs. It was then laid aside.

Case 8*th.*—A man had remained hemiplegic after an old attack of apoplexy. In him a pill, consisting of one-twelfth of a grain, was sufficient to occasion a strong tetantic stiffness of the paralysed limbs. On the subsequent days this man experienced, although the strychnine was discontinued, violent pains in the head on the side opposite to the hemiplegia. His intellects became confused, and the hemiplegia was increased; in short, he presented several symptoms which characterize softening of the brain. M. Andral asks, " Did the strychnine in this case produce an attack of inflamation around the old apoplectic cyst or cavity?"—*Journal de Physiologie,* Juillet 1823.

The manner of obtaining Brucine adopted by the French Chemists.—Brucine is an organic salifiable base, lately discovered by MM. Pelletier and Caventou, in the bark commonly known by the name of the spurious Angustura; (*Brucea Antidysenterica,* according to some: others consider it the *Strychnos Colubrinum.*) Brucine is white, regularly crystallized in oblique prisms, with a parallelogrammatic base. Its savour is very bitter, slightly acrid, and styptic. It is soluble in five hundred parts of boiling, and in eight hundred parts of cold water: it is very soluble in alcohol. It forms with acids salts possessing different characters from those presented by strychnine. Brucine is obtained by preparing an alcoholic extract of the spurious Angustura bark; and by dissolving this extract in a quantity of very cold water, and filtering it, in order to separate the fatty matter. The colouring matter is precipitated by the acetate of lead—the excess of lead, by sulphuretted hydrogen—and, lastly, the brucine, by an alkaline base. For this purpose magnesia is advantageously employed. The magnesia precipitate, slightly washed and dried, is treated by alcohol, which dissolves the brucine, which is afterwards obtained by evaporation. As the brucine is but little soluble, the magnesia should not be too much washed. M. Pelletier considers that ten grains of brucine is equal, in its action on the animal economy, to one grain of strychnine; and M. Andral considers that six grains of the former are required to produce the effects of one grain of the latter, if impure, and of a quarter of a grain, if pure.—*Dictionnaire de Médecine*, vols. 2d and 3d; Articles *Angusture*, *Brucine*: and *Journ. de Physiologie.* Juillet 1823.

Experiments on the Medical Properties of Brucine. By M. Andral, *fils.**—The pills of brucine which M. Andral administered to the subjects of the following cases contained each half a grain of this alkali. From experiments which he had made on animals, he was satisfied that no unpleasant effects could result from this dose.

Case 1st.—A mixer of colours laboured for two months under a paralysis of the hands. He took one pill without feeling any effect from it: two pills produced slight shocks in the arms; four pills caused tolerably strong contractions. He was discharged, cured.

Case 2d.—A compounder of colours, affected with a similar paralysis, took as many as four grains (gr. 3. 281 Troy) of brucine without any sensible effect. At the dose of four grains and a half he felt a sort of unpleasant creeping sensation in the arms; and in the dose of five grains (gr. 4. 1. Troy) he experienced somewhat strong shocks, without any serious symptom. The paralysis was remarkably diminished.

Case 3d.—A house-painter, paralysed in both hands, did not begin to experience any shocks until the dose of two grains of the brucine. Three grains caused somewhat strong trismus. The patient was only relieved.

Case 4th.—A worker in lead, and paralysed like the preceding, experienced a tetanic stiffness of all his limbs, after having taken three grains and a half of brucine. He was not relieved.

Case 5th.—A paraplegic subject, after having taken only two grains of brucine, felt a violent pain in the soles of his feet; his lower limbs were the seat of violent contractions. His condition was not improved.

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* These experiments were likewise made at La Charité, in M. Lerminier's wards.

Conclusions drawn from the preceding Experiments with the Strychnine and Brucine.—M. Andral deduces the following corollaries from the comparative trials which he has made with these substances;—

1st. Pure *strychnine* acts upon man like the extract of nux vomica, but with much greater intensity.

2dly. The action of *strychnine* is so energetic, that it ought to be used with the greatest precaution. Its effects, moreover, vary in a remarkable manner, according to the susceptibility of the individual.

3dly. The *brucine* acts upon man as upon animals, although much less energetically than strychnine. It may be advantageously substituted, as a medicine, for the alkali of the nux vomica.

4thly. Considered as regards their therapeutical properties, strychnine and brucine are more or less efficacious, according to the kind of paralysis which we may endeavour to combat with them. When employed in those cases wherein paralysis is connected with an inflammatory state of the brain or marrow, they may, very probably, augment the symptoms. In those subjects who are hemiplegic after cerebral hemorrhage, these alkalies are most commonly useless; and it is even to be feared that they may occasion inflammation of the cerebral substance around the apoplectic *foyer*. But there are cases in which, as if by a sort of habit, the paralysis would seem still to remain after the absorption of the extravasation: such cases may yield to the strychnine or brucine. Lastly, these alkalies seem to be especially efficacious against paralysis, the cause of which cannot be referred to a lesion of the nervous centres; such as, more particularly, the species of paralysis to which individuals are subject who handle the preparations of lead. The preceding cases attest the efficacy of strychnine and brucine in this species of palsy. Of nine cases, six have been cured, or at least relieved. I could also adduce other cases of paralysis of the same kind, which have yielded to the alcoholic extract of nux vomica.—*Journal de Physiologie*, Juillet 1823.

Application of the Stethoscope to the Diagnosis of Fractures. (*Arch. Gén. de Méd. Aout* 1823, ii. 631.)—M. Misfranc, the well-known lecturer on operative surgery at Paris, has completely succeeded in realizing a conjecture started some time ago by Laennec, with regard to the applicability of his stethoscope to the diagnosis of fractures. With the aid of this instrument, he avers that no surgeon can ever remain in doubt as to the existence of a fracture in any part of the body, except the head. The tumefaction around the injury can never be so considerable as to obscure the crepitation entirely; and the slightest possible movements are sufficient to produce the requisite sound. The following general rules have been established by frequent observation, both on the dead and on the living body. 1. The instrument may be applied over the seat of fracture with or without the end-piece; but the farther it is removed from the seat of injury, the sound is the more distinct when the end-piece is removed. 2.

When the bone is near the surface, the sound is always most distinct; the slightest motion elicits it; and it is most sensible just over the fracture. Hence we may thus discover the precise seat of the injury. 3. The crepitation diminishes as the instrument recedes from the fracture, yet may be felt at a very great distance. 4. When the bone rides, the sound is less obvious; but it becomes more distinct after extension and counter-extension. 5. The crepitation of compact bones gives a sharp, strong crackling, even sometimes so loud as to grate upon the ear. 6. That of spongy bones resembles the action of a file on such a substance as pumice, interrupted, however, by occasional sharp crackling. 7. Oblique fractures crepitate more distinctly than those that are transverse. 8. If liquids are effused round the broken ends, a sound is superadded, like that of the foot when thrust into an old shoe soaked with water. 9. When the fracture is complicated with splinters, the crepitation is united with a crackling as of several cornered bodies rubbing each other. 10. When it is complicated with laceration of the soft parts, the crepitation is united with a sound like that of a person breathing forcibly with the mouth wide open. 11. Dislocations give a very obscure dead sound, almost confined to the seat of the displacement. 12. The sliding of the tendons in their sheaths causes a full, dead sort of shock, quite different from crepitation.

The ingenious author maintains that two advantages attend this application of the stethoscope. In the first place, some fractures will be at once detected, which can be recognised in no other way; and, secondly, fractures of every sort may be easily and accurately recognised, with far less pain to the patient. Although we have not yet made trial of the stethoscope for this purpose, yet from what we know of its utility in pectoral diseases, and of the common principles of acoustics, no doubt can be entertained of the correctness of M. Lisfranc's experiments. It is only necessary to warn the reader, that, in employing the instrument of Laennec, either for this or any other purpose, he must not expect to succeed at the first attempt. To use it successfully requires considerable previous study, and perhaps also some tuition,—a fact, which never seems to occur to the numerous practitioners in our country, who neglect and despise it, without having taken any pains to appreciate its merits. M. Lisfranc has also applied it to the detection of urinary calculi, of biliary calculi, and of hydarthrosis. The first of these applications is useless; the fingers which hold the sound being just as fit for the purpose as the stethoscope held over the pubis. Out of many trials, the author detected the presence of biliary calculi in one instance only. Its use in hydarthrosis is obvious.

On the Use of Sulphate of Kina in Intermittent Fever. (*Giornale Arcadico di Scienze, &c. Novembre* 1822. xlvii. 129.)—The following statement by de Rossi of Anani and Tonelli, a physician at Paliano, is derived from the most precise and extensive experiments yet published on this subject. Both of them have made up a set of admirable tables, from which we have deduced the subsequent particulars. De Rossi used the sulphate of kina in 64 cases, namely in 8 simple tertians, 29 double tertians, 2 simple quartans, 17 subcontinued, and 8 pernicious intermittents. *All of these were cured; 50 had no subsequent paroxysms, 7 had only one very slight fit, 5 two similar fits, 1 several fits, and 1 passed into a continued remittent fever.* One person affected with a quartan for 12 months, recovered after a single slight return of the paroxysm. The quantity of the salt used varied between 12 and 72 grains; and in 45 cases did not exceed 24. The remedy was given in pills, and always in the apyretic intervals, in doses of 4 grains every hour, or every alternate hour; and, in general to confirm the cure, 4 grains were given daily for 10 days after the last paroxysm. The principal advantages to be derived from it, in preference to the bark itself, are the following:—It may easily be given to children, and to those who have a disgust at bark, or are affected by it idiosyncratically; and it has a rapidity of effect, especially in pernicious and sub-continued intermittents, far surpassing that of the bark. He farther proves, that large doses produce no bad consequences; in other words, that it can never act poisonously; that it may be given safely to persons of all ages and temperaments, to puerperal, pregnant, and menstruating females; and that, when it fails, the failure is owing either to the existence of some other morbid cause, or to the sulphuric acid being present in excess, or to the salt being decomposed by pharmaceutic substances intermingled, or by other matters which it encounters in the alimentary canal. The observations of Tonelli are equally pointed. He used it in 65 cases, namely in 4 quotidians, 22 simple tertians, 31 double tertians, 3 simple quartans, 2 double quartans, 2 subcontinued, and 1 pernicious intermittent. All of them recovered, except the last, who would not take the remedy till he was insensible and near the point of death. Forty-two recovered without any return of the fit; of the 65 cases only 43 required a repetition of the first dose, which varied from 12 to 18 grains. These results, especially those of De Rossi, who used the salt in greater quantity than Tonelli, and in a greater number of bad intractable cases, place the superiority of the sulphate of kina beyond all doubt, both as to convenience and efficacy.

METEOROLOGICAL OBSERVATIONS

FOR DECEMBER 1823.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 AM	2 PM	9 PM			
1	30 33	30 32	30 36	32	50	34	nw	nw	w		650	variable
2	30 48	30 48	30 50	34	52	36	w	w	w		648	do
3	30 50	30 50	30 28	32	54	42	w	w	sw		658	clear
4	30 13	29 90	29 86	40	45	44	sw	sw	sw	1.61	675	cloudy
5	29 80	29 93	30 18	36	41	29	w	w	nw		650	clear
6	30 37	30 34	30 30	24	40	35	nw	nw	sw		673	do
7	30 28	30 18	30 28	36	46	38	sw	sw	sw	—.02	660	cloudy
8	30 47	30 52	30 64	32	38	22	nw	nw	ne		652	do
9	30 78	30 65	30 51	18	34	26	ne	ne	ne		654	do
10	30 20	30 28	30 42	28	36	33	n	nw	nw		654	do
11	30 52	30 46	30 46	26	34	23	nw	nw	nw		654	do
12	30 40	30 40	30 35	30	33	33	cal.	nw	nw		661	do
13	30 30	30 30	30 27	30	34	27	w	w	nw		666	clear
14	30 27	30 14	30 04	26	36	33	nw	ne	ne		680	cloudy
15	29 92	29 80	29 74	32	34	33	ne	ne	n		680	do
16	29 74	29 70	29 96	30	29	26	n	n	n		678	do
17	30 15	30 18	30 22	29	34	26	n	nw	nw		676	do
18	30 27	30 27	30 04	22	45	40	nw	s	s	—.50	689	variable
19	29 74	29 74	29 74	48	48	39	se	nw	nw	—.15	710	cloudy
20	29 74	29 98	30 16	36	41	33	nw	nw	w	—.04	689	variable
21	30 35	30 39	30 52	30	34	26	w	nw	nw		685	clear
22	30 60	30 54	30 30	24	44	40	nw	sw	s	—.58	694	cloudy
23	30 16	29 84	29 78	42	46	44	s	s	s	2.00	714	do
24	29 72	29 94	30 14	42	44	30	w	nw	nw		690	do
25	30 50	30 42	30 26	22	32	27	nw	nw	sw		678	clear
26	30 66	30 66	30 71	26	36	28	nw	w	w		671	do
27	30 61	30 47	30 34	34	46	30	w	sw	w	— 01	68[illegible]	do
28	30 26	30 26	30 26	40	50	37	sw	w	w		680	do
29	30 28	30 28	30 30	28	44	36	w	w	w		684	do
30	30 30	30 28	30 22	32	46	40	w	sw	sw		691	do
31	30 10	30 18	30 24	42	58	46	sw	sw	sw		695	do

The quantity of rain which fell this month is 4 inches and 91—100ths.

This month was unusually mild, and assumed very little the appearance of winter; and especially the last seven days. The sun was obscured 4th, 9th, 10th, 12th, 15th, 23d, and 24th. Fog on mornings of 4th, 18th, 27th, 28th, and 29th. A little snow fell on the 9th. On the 10th there fell 2 inches on the level. A few flakes fell on the afternoon of the 12th and 15th. On the 16th 8 inches fell, which afforded good sleighing until the night of the 18th, when it was melted by a heavy fall of rain, accompanied by a violent gale of wind from the south-east, which continued until noon of the 19th. A little hail fell at 8 A. M. on the 20th with a bleak north-west wind.

METEOROLOGICAL OBSERVATIONS

FOR JANUARY 1824.

Made at the New-York Hospital, by Richard Pennell, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 AM	2 P M	9 PM			
1	30 30	30 26	30 30	40	40	33	n	ne	ne	—.22	700	cloudy
2	30 30	30 24	30 12	32	42	36	ne	ne	sw		701	do
3	29 98	29 92	29 94	36	48	38	sw	sw	sw		698	do
4	29 98	29 98	29 90	34	50	43	sw	sw	sw		698	clear
5	29 83	29 76	29 63	42	52	45	sw	sw	sw	—.01	725	cloudy
6	29 50	29 50	29 79	58	56	34	sw	sw	sw	—.22	710	do
7	30 47	30 47	30 47	26	44	31	nw	nw	nw		700	clear
8	30 47	30 50	30 54	32	45	31	nw	nw	n		692	do
9	30 60	30 60	30 48	30	48	43	n	n	s		710	do
10	30 25	30 25	30 25	50	56	53	s	s	s	—.75	744	cloudy
11	30 25	30 16	30 26	40	4[illegible]	40	ne	ne	nw	—.18	735	do
12	30 40	30 40	30 32	38	4[illegible]	35	nw	nw	nw		737	clear
13	30 27	30 15	29 70	36	44	43	n	n	sw	—.03	738	cloudy
14	29 56	29 6[illegible]	29 87	44	38	24	sw	nw	nw		710	do
15	30 00	30 00	29 89	24	32	28	nw	nw	nw		700	do
16	29 80	29 72	29 72	34	36	26	sw	nw	nw		685	do
17	29 75	29 84	29 80	32	38	28	nw	nw	w		680	do
18	29 72	29 72	29 78	32	40	26	cal.	n	n		682	do
19	29 80	29 80	29 84	22	32	19	n	n	nw		672	do
20	29 88	29 84	29 80	20	26	23	nw	nw	nw		670	clear
21	29 75	29 79	29 92	32	34	25	sw	nw	nw		662	cloudy
22	30 12	30 12	30 12	12	32	25	nw	nw	w		658	clear
23	30 12	30 18	30 22	26	38	29	ne	ne	ne		648	do
24	30 30	30 24	30 18	32	42	32	ne	ne	ne		675	cloudy
25	30 00	29 74	29 45	30	33	36	ne	ne	ne	1.18	686	do
26	29 35	29 34	29 53	35	42	32	nw	nw	nw		682	do
27	29 85	29 88	29 88	32	43	34	nw	w	sw		671	clear
28	29 9[illegible]	29 94	29 94	34	42	38	sw	sw	sw		674	cloudy
29	30 08	30 10	30 00	34	46	36	sw	sw	w		661	do
30	29 95	29 95	29 95	32	44	32	sw	nw	nw		658	do
31	29 96	29 96	29 96	32	40	26	nw	nw	nw		654	do

The quantity of rain which fell this month is 2 inches and 59—100ths.

The month of January was moderate and agreeable, the mercury in the thermometer being seldom below the freezing point. Fog on the mornings of the 1st, 3d, 5th, and 18th. A small quantity of snow fell in the night of the 2nd, 16th, and 29th, and on the afternoon of the 21st and 30th. Hoar frost on the mornings of the 4th and 9th. Sleet fell at intervals on the 26th. The sun was obscured on the 1st, 2nd, 6th, 11th, 13th, and 25th. Strong gales of wind, which did considerable damage to the shipping, on the 14th and 25th.

METEOROLOGICAL OBSERVATIONS

FOR FEBRUARY 1824.

Made at the New-York Hospital, by RICHARD PENNELL, M. D.

	Barometer.			Thermometer.			Winds.			Rain Gauge.	Hygrometer.	Weather.
	7 A M	2 P M	9 P M	7 AM	2 PM	9 PM	7 A M	2 P M	9 P M			
1	29 96	30 14	30 23	24	22	14	nw	nw	nw		654	cloudy
2	30 35	30 24	30 30	12	24	18	w	sw	sw		644	do
3	30 30	30 18	29 86	18	34	29	sw	sw	sw		642	clear
4	29 79	29 86	30 14	34	46	19	sw	w	nw		638	cloudy
5	30 33	30 33	30 33	8	18	12	nw	nw	nw		632	clear
6	30 33	30 28	30 13	20	34	32	sw	sw	sw		638	do
7	30 10	30 00	29 96	32	52	34	sw	sw	sw		656	cloudy
8	29 90	29 96	30 18	32	55	38	e	sw	sw		654	do
9	30 37	30 37	30 34	34	48	35	sw	sw	sw		656	do
10	30 34	30 30	30 14	34	58	49	s	s	se	—.38	680	do
11	29 99	29 73	29 80	44	64	[illegible]	se	sw	nw	—.63	701	do
12	29 93	29 98	30 38	34	34	22	nw	nw	nw		675	do
13	30 76	30 74	30 70	26	34	30	calm	se	se		674	clear
14	30 67	30 60	30 50	32	36	34	calm	se	se	—.03	685	cloudy
15	30 19	30 00	29 92	34	36	38	ne	ne	ne	2.10	698	do
16	29 73	29 61	29 50	36	38	30	calm	ne	ne		692	variable
17	29 77	29 98	30 10	34	46	40	nw	nw	se		692	cloudy
18	30 18	29 98	29 94	38	54	37	se	s	s		712	do
19	30 30	30 36	30 24	32	36	30	nw	nw	nw		676	clear
20	30 17	30 15	30 05	32	52	39	sw	sw	sw	—.67	670	variable
21	30 05	29 98	29 90	40	55	47	sw	sw	sw		684	do
22	29 50	29 30	29 34	38	38	28	ne	ne	ne		676	cloudy
23	29 70	29 64	29 72	32	34	22	n	ne	ne		672	do
24	29 83	29 96	30 16	21	36	19	n	n	n		662	do
25	30 34	30 18	29 98	22	36	30	nw	w	w		875	do
26	29 95	29 76	29 52	40	54	50	s	sw	sw	—.42	706	do
27	29 38	29 38	29 54	38	42	31	s	sw	nw		694	do
28	29 94	29 98	30 06	26	32	26	nw	nw	nw		672	do
29	30 16	30 24	30 30	28	34	24	w	nw	nw		660	clear

The quantity of rain which fell in this month is 4 inches and 23—100ths.

February set in with very pleasant weather, and was characterized throughout for its unusual moderation: the mean of the thermometrical range is considerably greater than we experienced in the same month of the preceding two years. Fog on the morning of the 9th, 11th, 14th, 15th, and 16th. Snow fell in the night of the 3d, two inches deep: in the night of 22d, two inches; and in the night of the 23d, four inches; and a little fell on the 14th, 16th, and 25th. Sleet fell at intervals on the 14th and 27th: the sun was obscured on the 10th, 14th, 15th, and 28th. Violent tempest from the N.E. on the 15th, and strong gales on the 11th, 12th, 22d, and 26th

TO READERS AND CORRESPONDENTS.

We have received a long communication from Dr. Miner of Middletown, containing a series of strictures upon our review of a work lately published by himself and Dr. Tully, entitled "Essays on Fevers and other Medical subjects." As the article is well written, and at the same time couched in language extremely decorous and respectful, we should be much pleased to comply with the request of the author to give it a place in this Journal, did we not conceive that by so doing we should establish a precedent, which might subject us to the unpleasant necessity of admitting criticisms upon every review that might appear in this work, a course of proceeding which we suspect would not be much relished by our subscribers. There is one subject, however, on which we think Dr. Miner is fairly entitled to a hearing, and this is his claim to *originality* in his peculiar method of using calomel in fevers, which it will be recollected that we took the liberty of calling in question. The following extract from Dr. Miner's communication, which we cheerfully publish, will enable our readers to judge for themselves. We hope the course we have adopted may prove satisfactory to our friends Drs. Miner and Tully, for whom we entertain the sincerest respect, and whom we should be proud to number among the regular contributors to this Journal.

"We well know" says Dr. M. "that almost every conceivable change has been occasionally or accidentally rung upon mercury, so that it is extremely difficult to hit upon any use of it, that has not already been employed. This, however, does not prevent its being systematically administered with *new views*, and upon an entirely *new plan* of management. We lay little stress upon the term *original*, yet we do contend that our *mode* of giving pure calomel, in very small doses, every two or three hours, so that if possible, it may not operate by the bowels under twelve hours from the administration of the first dose, accompanying it with a moderately diaphoretic course of warm vegetable infusions, assisted with pediluvium, fomentations, sinapisms, epispastics, &c. according to circumstances, at the same time being very cautious to prevent excessive catharsis, is much the most successful method for breaking up *regular* nervous fever of any that we have ever known tried for the same purpose; and that this *precise* method of practice, at the access of fever is *peculiarly our own*. Previous to its being adopted by the author of the first essay, we never saw or heard of its being employed in this way, with intent to produce a resolution of fever, by any physician; nor have we ever found it recommended by any other author. Our process and aim in the incipient stage of fever are entirely different from the usual course of *free* purging with *large* doses of calomel and jalap, to operate as *speedily* as possible, or of giving night and morning *full* doses of calomel, or of attempting, in any way, to produce early ptyalism. Very *active* purging, of all things, except profuse bleeding, we would wish to avoid; nor do we by any means wish to induce complete salivation. Indeed, venesection, vomiting, purging, sweating, or any other evacuation, when it amounts to depletion, (see essay on diathesis,) we consider as a doubtful remedy in regular nervous fever, and to be more likely to increase and coincide with the existing morbid action, than to counteract and remove it.

"To the other processes which we recommend, in case that ours of slow and moderate purging has failed of breaking up the fever, that is, the use of calomel and opium, to moderate and change the diseased action of the remaining part of the preparatory stage, as well as to the method of support in the stage of exhaustion, we have never laid the slightest claim to originality. The former was pretty well understood by many physicians of New-England, about half a century before it was recommended by Dr. Hamilton of Lynn Regis; and the latter, in some form or other, has been the practice of nine-tenths of the medical world, in malignant fevers, and in the stage of exhaustion of other diseases, ever since the days of Hippocrates."

Our next number will contain communications from Professors Macneven and Mott, Drs. Coventry, Greenhow, &c. &c.

ERRATUM IN NO. VIII.

P. 435, line 18 from top, for *exposure* read *pressure.*

No. X. will appear on the last day of June.

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ART. I. *An Historical Sketch of* NEUROLOGY. By FREDERICK G. KING, M. D. of New-York.

THE history of anatomy, like that of nations, appears in its earliest records so darkly shrouded by the veil of traditionary legends, that borrowing its shape from the medium through which it is seen, it exhibits forms so fantastic, and parts so discrepant, that the inquirer into its truth or origin knows not whence to derive nor how to arrange them.

Lost in contradictory evidence or confused testimony, in furtherance of his design, he calls in the aid of authors who profess to elucidate his subject, and finds that the assistance he had anticipated is to be found upon their title-pages only: at least such is the case with most of the commentators and elucidators of the sixteenth century; who, like the Arabians, content themselves with becoming mere copyists of the great antiques, and oftentimes in so rude a manner, that the force and expression of the original are not to be recognised. To examine this subject then, it is not alone requisite that we look into the historians of the sixteenth century, and then rest satisfied with the testimony there found; but we must ascend to the earliest records of our profession, if possible, in the languages they first appeared in; for translations too frequently give the favourite views of their author, and not the sense of their original, particularly if they bear date in a century when the passions and enmities of men were keenly sensitive to opposition in any fancied discoveries which self-vanity or ignorance taught them to wish their own, and strive to make others believe as such.

Such has been the case in the history of this branch of anatomy more than in any other, and forms a sufficent reason why, in the consideration of our subject, we shall confine ourselves strictly to the recorded observations of *practical* anatomists, and not indulge in the biassed or false assertions of anatomical philosophers, whose knowledge of man and his structure depended not upon what they had *seen*, but upon what they had *heard*. If such be the rule which guides us, we shall find our subject divide itself naturally into periods; for as practical anatomists appeared but rarely, they gave a tone to the age in which they lived, and stamped a character upon the periods which cannot be better named than after the illustrious individuals who gave remembrance to their times. Hence we arrange our subject under *four* distinct periods, viz.—

I. Neurology from the rise of Hippocrates to the age of Herophilus.

II. From the age of Herophilus to that of Galen.

III. From the age of Galen to that of Vesalius.

IV. From the age of Vesalius to our own times.

I. The condition of Neurology in the period embraced between the rise of Hippocrates and the age of Herophilus.

Previous, however, to entering on this subject, we must first meet an inquiry not unlikely to be made, viz. were there no anatomists previous to this period? To which we reply in the negative, and add that even *in* this period we have no record of any thing like specific anatomy, with the few exceptions presently to be recorded. And although the language of the old Testament and Homer every where bespeaks a certain degree of familiarity with our structure—and although it is not to be presumed that priests and others were daily employed in opening victims of sacrifice, and sometimes having even man himself subjected to their examination in the unhallowed slaughter of slaves and prisoners to the manes of departed heroes, without obtaining some knowledge of their structure—yet such hurried and superficial examination could not have been productive of much permanent benefit; and as even records of these observations could not be obtained, and all was oral tradition, such dim and scattered lights could but feebly enlighten the darkness of universal ignorance.

When osteology and splanchnology, the most obvious structures of our frame, were hitherto but little known, surely neurology could not have attracted the least attention. It is therefore with Hippocrates, the most celebrated of the Asclepiadæ, that our history commences; a name which commands respect from the anatomist as well as the physician: for in his works, so long the idol of infallibility, we find much anatomy, though expressed in terms so obscure and confused as to afford scarcely sufficient ground to judge correctly of the extent of his acquisitions in that science. Yet Hippocrates had but slight knowledge of the nerves, or he never would have confounded tendons and ligaments under the general term of nerve: a species of confusion arising from ignorance of structure, always to be met with at this period, and too frequently imitated by his successors to a very late period. Yet although such a fact would seem to argue that nerves had passed unnoticed by him, Galen maintains that Hippocrates had not only remarked them, but had even fixed an express term (τονος) to them, which Galen appears so thoroughly convinced of, that he adopts that very term to express a nerve. But many of the passages* in which that term is used seem rather to refer to fibres and ligaments than to nerves; but there are passages affording proof that he knew something on our subject: thus we find him[*] speaking of τα εντος νεῦρα και τα λεϖτα, by which we may understand true nerves: and in another place,[†] he describes nerves as arising from the back of the head, and continuing along the spine of the back as far as the ischium, whence nerves pass off to the thighs and other parts. Had he stopped here it would have been well, and Hippocrates might have been looked upon as the father of neurology as well as of medicine, from his having given an early account of the spinal nerves. But the desire of assigning function to parts led him from this high reputation, and proved to him, as it has to many since his time, an unfortunate veil to the lustre of bright names: for, adds he, "the *uses* of these nerves are to flex the body and extend the extremities," evidently meaning tendons.

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* Lib. de Artic. et. de Morb. Epid. lib. ii. c. 4.

But even if he was acquainted with the nerves, he was ignorant of their uses; for he ascribes their function to veins and arteries, and terms apoplexy φλεϐῶν αποληψις,[‡] and assigns as a cause of aphonia "the interruption of the spirit in the veins,"[§] which he says are spread throughout the body, to carry spirit, rheum, and motion,[||] thus assigning what by us is termed nervous energy to the veins or vessels. But his terms are so confused that we cannot know what he really meant, for he at one time speaks of solid veins, and at another of nerves containing blood, which is only explicable on the ground of Rufus of Ephesus, who asserts that the older Greeks frequently applied the term nerve to arteries,[¶] so that no argument can be drawn from this against Hippocrates. Whatever then may have been his knowledge of the nerves, he had examined the brain, and is the first who records its membranes. "There are two membranes," says he,[**] "the one thick, the other delicate, which cover the brain," which body, from its friability and spongy nature, he considered as a gland;* at one time believed to be "the seat of the understanding and prudence";† whilst in another he places the soul in the left ventricle of the heart.‡ With regard to the long disputed controversy about the true import of ἲς and ἶνες, whether translated nerve, fibre, or ligament, as learnedly contested by Erotian, Foesius, &c. it matters little, for the passages in which it occurs are few and unimportant: and the import of τονος is equally questionable, as will be seen by referring to his two chapters de articulis and de morb. epidem. lib. ii c. 24.

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[*] Prænot. cos.

[†] De oss. nat.

[‡] De oss. nat.

[§] Πνευματῶν, αϖοληψις ανα τας φλεϐας.

[||] Πνευμα, ρευμα, και κινησιν. De oss. nat.

[¶] Ruf. de art.

[**] De loc. in hom.

The claims therefore of Hippocrates on neurology are very slight; for although a knowledge of some few trunks of nerves may be allowed, as was not unlikely, considering the numerous wounds and accidents of the times, yet he never distinguishes them from tendons, &c.; and from his assigning their functions to the veins, we may be well assured of his ignorance of their uses. Beside the terms he employs are so loose and questionable, and are backed by reasons so contradictory, as not to be admitted in satisfactory proof of any great familiarity with our subject. And indeed we should not have been so particular on this point, had not Galen, by the deservedly great weight of his authority, given a bias towards the belief that Hippocrates was familiar with true nerves; but the passages referred to, with several others that might be adduced, will not support such a construction or bear us out in such a belief. Yet the hints thrown out, and above all, his description of the brain and its membranes deserve remembrance, inasmuch as it is the first step towards those investigations which were shortly to be made in this system. In fact all the names which will attract our attention in this era, are remarkable only as they contribute each a little towards the foundation of the rising system.

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* De gland.

† De morb. sac.

‡ De corde, which, by the by, is a questionable chapter, as also the one de gland.

Therefore we shall pass over Thessalius and Draco, the sons of Hippocrates, and Polybius, his son-in-law, together with many others who, however distinguished in other respects, cannot challenge the attention as having thrown any light upon the object of our researches. Moreover for a long time after Hippocrates, anatomy became the almost exclusive property of the philosophers, in whose hands, as was to have been expected, it became adorned with fanciful and oftentimes brilliant theories, founded on so much of structure as was then known, without being enlarged by dissection or anatomical investigations. It was not for minds educated in the dialectics of the schools, or skilled in sophistical philosophy, to submit to the drudgery of minute dissection; but overleaping such disgusting minutiæ, they seized on striking or peculiar facts, and wove them into a brilliant tissue of philosophical hypothesis, as is beautifully illustrated in the writings of Plato, Zeno, and others.

But in this strange confusion of anatomy and philosophy we find, what could little have been anticipated, a truly sterling work in minute anatomy, by that most accurate of observers, Aristotle, whose treatise on animals will long endure as the monument of an enlightened monarch's patronage, and a grateful philosopher's return.

Aristotle, the disciple of Plato, is indeed the very first who can with propriety be termed an anatomist or dissector, and is the father of that art, without which anatomy is vain, and medicine foolishness, viz. anatomical demonstrations. To such an extent did he push his anatomical investigations, that we are not astonished at finding it maintained* that he had dissected *men*, although many of his descriptions disprove such assertions, and he himself states,† "that human anatomy was unknown, and judged of only from analogy in other animals." Be this as it may, he certainly added but little to the doctrine or explanation of the nerves; for like Hippocrates he confounds them with tendons, and also with muscular fibre, placing their origin in the heart, which he says is filled with nervous fibres running in every direction,* evidently meaning the tendinous threads or muscular fibres of that organ, which, like his successor Praxagoras, he esteemed as being the seat of the soul, and the common source of sentiment and motion. Having heaped these honours on the heart, it is not astonishing to find him despising the brain, as a mere *cold* mass of earth and water, devoid of blood, and utterly destitute of sentiment, which two last propositions are dependent on each other, and rest upon a belief he elsewhere promulgates,† that only such parts as have blood can possess sentiment or sensation.

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* Goelicke. anat. hist. p. 47.

† Animal. hist. lib. i. c. 16

The only use he assigns the brain is to keep the heart cool, a function which he likewise attributes to the lungs; but the mode by which this refrigerating process is carried on is unfortunately not detailed, else we might have been gratified with a specimen of physiology as amusing as the detail is singular. Yet this same author maintains that the medulla spinalis is an entirely different structure from the brain; and being *warm*, consequently enjoys a more distinguished office, viz. to nourish the bones of the spine.

He endeavours to draw a line of distinction between nerves and ligaments, hitherto so frequently confounded: for we find him expressly maintaining,‡ "that the vital spirits cannot be contained in the nerves," and he certainly proves his point, as reasoning apart, we cannot fail to believe, when we find that his nerves, like those of Hippocrates, serve to move parts, and are nothing less than tendons; which fact tends strongly to prove the assertion of Rufus, "that the ancients understood vessels by the term nerve," as is further established by an assertion of Aristotle,§ "that the vessel called aorta is *nervous*, and in its extremities resembles a true nerve,* having no cavities, and being expanded like such about the articulations of bones," clearly indicating by the latter clause of the sentence that by true nerves he understood tendons. Excepting that he confirms the statement of Hippocrates, with regard to the two membranes of the brain, Aristotle could claim little attention from us: yet was his career a splendid one, as is best evinced by the despotic sway his writings maintained, even in the sixteenth century, in three departments of letters, viz. metaphysics, natural history, and anatomy.

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* De part. anim. lib. iii. c. 4.

† Ibid.

‡ De spiritu.

§ Hist. anim. lib. iii.

With regard to his successor Glaucias, (crucified for the unsuccessful treatment of a case,) Alexippus, Critodemus, &c. nothing is left but their names, and a few trifling anecdotes.

The taste or inclination for examining the structure of animals appears to have sunk with Aristotle; for no improvements or additions were made, until that second Hippocrates, as he was called by the Athenians,† Diocles Carysthinus appeared, who, though at one time‡ treated lightly of by Galen, is nevertheless commended§ as the first who wrote an express treatise on methods of dissection. But how or why Diocles attained his lofty title from the Athenians it is difficult to say, for he was little more than a remodeller of old theories, and in his dissections has added nothing to anatomy: we should not have mentioned him, except that he was the first after Aristotle to return to actual observation of anatomical structure, thus leading the way to discovery and improvement.

About the same period, or a little after, Praxagoras appeared, the third from Hippocrates who excited much attention, and received encomiums as a skilful anatomist; but that he knew not much of nerves, we are convinced, from his affirming with Aristotle, that they arose from the heart,* and that the brain is of no use; though he differs from the latter in considering it as an *appendage* of the spinal marrow, a doctrine which has lately been urged as a discovery of modern date. He however advances a singular doctrine, which is perhaps referable to the passage we have noticed from Aristotle,† viz. " that arteries change to nerves in proportion as their cavity is contracted towards their extremities;"‡ and yet the author of this singular belief was the preceptor of Herophilus.

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* By a true nerve, here, is meant a ligament or tendon, and by nerve, an artery or vessel is to be understood: the ambiguity of expression arises from similarity of terms in the original, and the meaning is to be received according to the knowledge of those times and not of our own.

† Theod. Priscian.

‡ De dissec. mat.

§ De admin. anat. lib. i.

With Praxagoras our first period closes, leaving us very nearly in as much ignorance of neurology as it found us at its commencement. For the discovery of the two coverings of the brain, some wild conjectures as to the use of that organ, together with a few singular notions about nervous communication and influence, comprise the amount of the knowledge for which we are indebted to this period. But curiosity had been awakened, and the attention of men called to the elucidation of structure by actual observation, from the few hints and facts thrown out in the records of this age; and we may safely pronounce, but for the occasional dissections in this period, and the diverse and opposite opinions and facts stated by their observers, our science would not have been prosecuted with such zeal, attention, and talent, as in our next period we shall find it to have been.

II.

Having thus, for a series of years groped on in darkness, obscured by ridiculous conjecture, and entangled by slight and contradictory observations, neurology is now about to extricate herself from minds that would not observe, and hands that could not trace her mysteries, and assume the high rank to which it is doubly entitled from her long obscurity and her essential utility. Indignant at having offered her beauties to the blinded eyes and bigoted minds of Greeks, more habituated to the modes of logic than to the instruments of dissection, she fled their country for a more happy climate, where arts, science, and literature held their abode, on the banks of the seven-mouthed river.

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* Ruf. lib. i. c. 33. 36.—Galen de Hip.

† Gal. sur le systême nerveux, &c.

‡ Galen de Hip. dec. lib. i.

In Egypt, whose monarchs led the way in anatomy,* as appears from the testimony concerning Athotis; whose very feasts contributed to its advancement, by the dreadful memento mori which presided over them,† where none other than human anatomy could well be studied, as they were forbidden under penalties the most severe from slaying, or if found dead, from dissecting dogs, and all unclean animals; whilst by another law, all virgins furitively pregnant were compelled to kill and expose their offspring on the highway, affording no scanty field for anatomical improvement;‡ and where an affection for the living, strengthened by a peculiar religious belief, extended into love for the dead, inspired them with a desire to render the frail body ever-during as the semblance of forms once esteemed, anatomy, not of beasts, but of man, was rendered essential and easy. And when we add to this that Ptolemy Soter annually devoted the bodies of a certain number of criminals for dissection, we cannot wonder that this science abandoned Greece, and enshrined herself in Alexandria, where she met with faithful priests, and numerous sacrifices.

Under such favourable circumstances was it that Herophilus of Chalcedon, on the Bosphorus, with a most princely patron, rose to immortality in the crowded schools of Alexandria. By virtue of the most laborious examinations and toilsome research, he soon became pre-eminent among his associates and cotemporaries, Erasistratus excepted, in anatomical knowledge. Daily observing parts unknown before, he felt the necessity of terms to express them, and therefore engaged in the arduous task of forming an anatomical nomenclature, furnishing what it had not before, a language to anatomy. Its highest praise is, that it has stood the test of time unimpaired, for most of his terms are at present in use, though the honour of their invention has been assumed by later writers.

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* Eusebius. † Plut. Symp.

‡ Goelicke. hist. anat. p. 22.

He first entered the unexplored region of neurology, and marked out paths which even moderns have scarcely passed along. He is the father of our system, for this pursuit could by no means claim the name of science until enriched by him, whom Celsus* and Tertullian† stigmatize with the name of butcher, and abuse on the ground of having dissected men *alive*, in the same manner as Medea is fabled to have boiled them alive, from her having been the first to introduce the use of the warm bath.‡ Thus has Herophilus suffered the indignation of certain learned fathers and prejudiced dogmatists, because he first dissected men. For although Riolan and others attempt to prove that Hippocrates, Apollonius, Aristotle &c. did really dissect men, yet their proofs are too feeble to be admitted. Thus with regard to Hippocrates, the strongest argument they urge is drawn from Pausanias, who states that it is *reported* " that at Delphi there is a brazen skeleton consecrated to Apollo by Hippocrates ;" which however proves nothing : for allowing the *report* to have been correct, which is questionable, does it require that Hippocrates should have been a dissector of men in order to design such a statue ? In the hurry of military movements, were the dead or wounded never left to blanch the field of glory with their bones ? Has the surge only in modern times cast forth its dead upon the shores ? Homer records such facts, why then cry a miracle to prevent it during the period of Hippocrates ? And if such things were, surely it required no great anatomical knowledge in Hippocrates to produce a model for this reported skeleton. And no argument which probability can advance shall persuade us that Aristotle had dissected men when we have his own declaration to the contrary.[*] Galen too, in speaking of Herophilus, says,[†] "he was a man versed in all that concerns medicine, particularly skilled in anatomy, which he had learnt, not from the dissection of animals as *his predecessors had done*, but principally from the examination of men."

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* Prœf.

† Unum esse spiritum, &c.

‡ Le Clerc.

This question then, which has led us somewhat astray, being set at rest, we cannot but conclude that Herophilus and Erasistratus are the first known to have dissected men. Were other arguments wanting, they might be found in numerous passages of the above authors, where their anatomical descriptions accord with the structure of animals, but do not apply to man. Thus far we have thought it necessary to wander, inasmuch as the history of these men is interwoven with our subject, and we could not omit so important a feature of it as the above, which contributes strongly to account for the reason why their predecessors knew so little, and they so much of human anatomy. We shall now return and investigate the claims of Herophilus as the first practical anatomist, and the discoverer of the nervous system.

Dissatisfied with the looseness of anatomical research existing heretofore in Alexandria, Herophilus made use of his deservedly acquired influence over his prince Ptolemy Soter, for the purpose of obtaining his permission to make those examinations on man himself, which elder anatomists had been compelled to prosecute in animals. Accordingly we find that he is the first who observed the true nerves, or such portions of our fabric as are indicated at the present day by this term; for he draws that necessary distinction, hitherto unnoticed, between nerves and tendons, the confounding of which had led so many of his predecessors astray, and which nothing but complete ignorance can excuse many of his successors for again reverting to.

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[*] Animal. hist. lib. i.

[†] De diss. c. 5.

The accuracy of his dissections, and his familiarity with the functions of parts, cannot be more clearly indicated than by a reference to the grounds on which he made his distinction, as related by Rufus,[*] "dixit autem Herophilus aliquos esse nervos qui a cerebro spinalique medulla oriuntur; aliquos qui ab osse in os inseruntur; aliquos a musculo in musculum transeuntes qui articulos etiam copulant." So accurate was his knowledge of true nerves, that an application of terms in common use at this day with regard to them originated with him. Thus, speaking of nerves, he says, "Germina a cerebro enascentia nervi sensorii electorique sunt per quos sensus et voluntaria motio fit, omnisque corporis actio perficitur."[†] In this description we find a distinction made which could not have been expected: for he uses the term *voluntary* motion, as applied to particular nerves, implying a distinctive idea of two kinds of motion, dependent on different sources or agents. But his knowledge was not confined to cerebral nerves as appears from the following passage from Rufus, in speaking of the description of Herophilus, "horum autem nervorum quidam a spinali medulla et ex ipsam cingente membrana expullulant."[‡] So that the spinal nerves were not discoveries of modern date.

Thus well informed about the nerves, he next examines the brain whence he derived them all: and here we again find him making rapid discoveries. Not content with Aristotle's description of its two membranes, he examined them for himself, and soon perceived the imperfection of his predecessor's account. He describes them anew together with the *processes* and *sinuses* of the dura mater, with a precise description of his own Λανος,[§] or wine press, a sinus known to this day as the Torcular Herophili. The supposed cavity of the optic nerve did not escape his attention, and he remarks that these nerves have a cavity,[||] an opinion universally entertained until

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[*] De Apellat. corp. hum. part. lib. ii. c. 17.

[†] Ruf. lib. i. c. 22.

[‡] Idem.

[§] Galen de anat. admin. c. 9.

[||] Ruf. lib. iii. c. 17.

Vieussens contradicted it, saying, "quum ne visorium quidem nervum unquam cavum perforatumque viderim qui a dissectionum professoribus forati dicantur:"* and this opinion has not wanted advocates in our time, although the appearances favouring this deception have been satisfactorily accounted for on other principles.†

The surface of the brain, and the discoveries he there made, were not enough to satisfy a mind like his, when the acquisition of every new fact enkindled a desire for more; and he sought them in the very recesses of the brain, by the opening of which he discovered and remarked the ventricles,‡ so that it may be truly remarked of his searching knife, "ex aperto cerebro, obstetricantibus etiam Vulcani ferramentis Minervam enatam fuisse:"§ particularly as he believed the lateral ventricles to be the seat of the soul.‖ Nor is it to be supposed that in opening these singular portions of the brain, whose use is still a problem in physiology, that the most apparent of their contents, the plexus choroides (so called from its resemblance to the vascular membrane of the fœtus¶) could have escaped his scrutinizing eye; and it is in fact to Herophilus that we owe, not only the discovery, but also the name of this vascular tissue.

The retina or expansion of the optic nerve did not escape him in his observations on the eye;** a circumstance truly wonderful, when we consider the extreme delicacy and nicety of manipulation, as well as fineness of instruments at the present time requisite for its perfect display. Not content with the mere discovery of these varied parts, and the lacteals not among the least, he endeavours to account for their functions: and to the nerves, as we have already seen, he ascribes the motive power and the faculty of sensation.††

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* Vieuss. p. 317.

† Pring. on nerv. syst.

‡ Ruf. lib. i. c. 22.

§ Wills. dedicat.

‖ Le Clerc p. 320.

¶ Ruf. c. 22.

** Ruf. c. 23.

†† Galen de anat. ed. c. iii.

There is still a discovery of his unmentioned, which will scarcely be credited, the more especially as the honour of it has been assumed by Aranze,* in the sixteenth century: yet Galen and Rufus both testify to the fact, that not only was the fourth ventricle discovered by Herophilus, but that he also noticed that peculiar arrangement at its base, known to us by the name of calamus scriptorius, a translation of the very name he himself gave in describing the part, "which," says he, "resembles a pen cut for writing." (Αναγλυφὴ τȣ̃ καλάμȣ̃.)†

If such be the claims of Herophilus on our attention, as collected from fragments and notices of him scattered here and there in various authors, how much may we not reasonably suppose might have been detected had his writings not been lost during the twelfth century, until which time they were extant?

Such was Herophilus, the founder of our system. Each discovery seemed but the prelude to others far more brilliant, nor confined exclusively to neurology; for every part of our system became in turn the object of his investigations, and every part received numerous additions from him: so that we feel disposed rather to join with, than smile at, Fallopius, when we find him bursting out in the enthusiastic encomium, "contradicere Herophilo in anatomicis est contradicere Evangelium."

After so splendid an era it may from analogy be presumed that our History is again to be lost in the clouds of rising ignorance and neglect: not so however, the spirit of investigation was abroad, roused to action by the success of Herophilus. The same age and school boast the names of Herophilus and Erasistratus; which last, though placed by some anterior to Herophilus, was probably in repute about the same time or a little after.‡

Far more fortunate than his predecessor, Erasistratus speaks for himself on the subject of the brain and nerves: for Galen has preserved nearly the entire passage which we cannot do better than translate, as affording information wonderfully precise for that period on this subject. "We examined the brain of man to ascertain its nature, and we found it divided into two parts, as in other animals, having ventricles or long cavities: these ventricles *communicate* with each other, and run towards the cerebellum, (ϖαρενκεφαλον) where is also a small cavity (the fourth ventricle.) But each part was separated by its membranes, and the cerebellum particularly, was enclosed by itself, as also the cerebrum, which last in its folds and convolutions resembles the jejunum. The cerebellum also is folded and turned in such a variety of ways, that it is easy to perceive that as tendons and muscles are remarked as aptly disposed for swiftness of motion in deer, &c. so also in man, who exceeds all other animals in intellect, this great variety and multiplicity in the folds of the brain has been made for a particular end. In addition to which he remarks "that the nervous productions or apophyses of the brain are so striking, as to convince us that this organ is the principle of all actions which occur in the body. For the sense of smell arises from the nostrils being pierced to allow of communication with the nerves; hearing is produced by a similar communication of nerves with the ear; and the tongue and eyes are supplied with similar productions of the brain."* In this remarkable passage we find Erasistratus dividing the cerebrum into hemispheres, and the whole encephalon also into two parts, cerebrum and cerebellum, demonstrating the existence of ventricles, and maintaining an opinion with regard to their communication which is still received by many, strong proof to the contrary notwithstanding. He goes farther, for he may be ranked as the first of phrenologists, from the clause in the above fragment, where he suggests the idea, that in proportion to the multiplicity of folds and convolutions in the brain, will the intellect be more or less developed; illustrating his proposition by an apt and familiar analogy. But we shall not urge his claims particularly on this latter head, for there is too much comprised in the above quotation to permit us to dwell on a solitary fact. The facts here recorded could not have been believed, so much like a modern's does his description appear, had we not the authority of Galen for their authenticity.

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* Spreng. hist. anat.

† Galen de anat. ad.

‡ Le Clerc.

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* Galen, de Hip. et Plat. plac. lib. iii. c. 7.

We cannot then, under these circumstances, question the accuracy of Rufus, when he tells us that Erasistratus distinguished two kinds of nerves: the one for sensation, the other for motion:[*] and according to the same authority he maintained that the origin of the two was distinct, for those of motion arose from the brain collectively, whilst those of sensation, which were hollow, took their rise from the meninges or membranes: but Galen[†] says, that although this was his original belief, yet having grown older and examined more thoroughly, he concluded that all nerves arise either from the brain generally, or from the spinal marrow. So far too was he acquainted with the functions of the parts he had so well observed, that he ascribes paralysis to "an interruption of the humour which nourishes the nerves,"[‡] which, with a slight alteration of terms, might well pass for a passage from some modern treatise, so clear is the decided reference to the nerves as the cause of this affection, as laid down by one who is well termed by Macrobius,[§] "veterum medicorum famosissimus et nobilissimus."

As to Eudemus, who is celebrated by Galen "quod nervorum originem rectius antecessoribus suis cognoverit," and who was the able assistant of Herophilus and Erasistratus, many of whose discoveries in this branch he has the honour of sharing; unfortunately justice cannot be done to him, for his writings have perished, and his memory is alone preserved by a few scattered fragments in Galen.

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[*] Ruf. lib. i. c. 22. & lib. ii. c. 17.

[†] De Hip. et Plat. plac. lib. 7.

[‡] Galen de artr. bil.

[§] Saturn. lib. ult.

We have now reached that period when medicine, hitherto with all its dependencies exercised by one and the same man, was to be divided into distinct branches. But it would be irrelevant to trace the rise and progress of diatetic, pharmaceutic, and chirurgic medicine; it is enough to remark that we have the authority of Celsus[*] for placing this division of the profession at the period immediately subsequent to Herophilus.

How much soevér such a division of pursuits might, under ordinary circumstances, have contributed to the individual advancement of each, it was at this period more than counterbalanced by the appearance of that sect, who little convinced by the reason of medical philosophers, and incredulous as to the discoveries of the anatomist, maintained that neither the one nor the other were necessary, and openly proclaimed *experience* as the only guide in medicine. Serapion[†] and Philinus were the leaders, or rather founders of this sect, whose principles, although extended by some to six, are nevertheless easily reducible to three heads, viz. observation, history, and substitution, which form, according to the favourite doctrine of numbers, the "tripod of medicine,"[§] as Glaucias, one of this sect, terms it.

In opposition to these contemners of anatomy, the *dogmatists* arose, who maintained that all remedies must be exhibited according to *indication*, which implied a knowledge of the apparent and latent causes of disease, of structure, and familiarity with functions, which were not to be attained without examination and dissection. They indeed admitted that experience was useful, but maintained that it must primarily be founded on reason; and urged the appearance of

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[*] Prœf.

[†] Serapion primus omnium nihil hanc rationalem disciplinam pertinere ad medicam professus in usu tantum et experimentis eam posuit. (Celsus, prœf.)

[‡] Le Clerc.

[§] Τριπους τῆς ἰατρικῆς.

new diseases as a reply to their opponents; for as experience could not exist in such a case, a knowledge of natural and morbid anatomy, acquaintance with the laws of function and the different causes deranging it, are the only means left to direct remedial applications in such an emergency.

But enough of this controversy, which may be all summed up in a few words, viz. "Analogy and induction were to the empiric what the connexion of dogmas and methodical application of them to plans of cure were to the dogmatist."*

With regard to the subdivisions into methodics, and these again into epysinthetics, eclectics, and pneumatics, they are foreign to our subject. For indeed the two leading sects had not been mentioned, but that in the uninterrupted acrimony of their contests, some reason might be found why anatomy, so flourishing under Herophilus and Erasistratus, should again have fallen into disrepute, and become almost forgotten.

Aretæus of Cappadocia, who after a lapse of centuries is the next to claim our attention, though an excellent physician, and fully aware of the importance of anatomy, as is apparent from his prefacing all his treatises on disease with a rapid anatomical sketch of the parts, was not of particular benefit to our science in the extension of discovery, although from close observation he has been led to some curious, and perhaps not wholly incorrect views of some part of nervous structure, as will presently appear. With Aristotle he again seats the soul in the heart; although he believed the brain to be the principle of motion and sentiment, with the nerves dependent on it. But he in part redeems his reputation by the excellent anatomical remarks made in his chapter on paralysis, where he not only states what has been by many esteemed a modern doctrine, viz. decussation of nervous fibres, but also gives strong reasons for placing that decussation in a definite part, at least he lessens the part through which it is to be sought. Thus, in speaking of paralysis from injury, he says, "when it arises from injury to the spinal chord or parts *below* the head, similar sides are affected: i. e. if the injury be on the right, the right side will be paralytic, and vice versa, but if the injury be inflicted *on* the head, opposite sides will be affected;"* which he accounts for thus, "because nerves arising on the right side do not go direct to parts on the right side of the body, but immediately at their origin they pass over to the *opposite* side, crossing each other like the letter X, (ἀλλήλοισι εϖαλλαξάμενα εις χιασμον σχηματος. With the statement of this opinion, founded on the most accurate observation of morbid phenomena, and the remark that he every where speaks of nerves, of sensation, and of motion, as distinct, we leave Aretæus, to pass through crowds of pharmacopolists, botanists, physicians, and philosophers, who for succeeding centuries fill the pages of medical history.

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* Cabanis.

Anatomy was lost amidst such diversity of pursuits, and might have perished but for the research, skill, and genius of a single man; for down to as late a period as the reign of Trajan, nothing more was noticed of anatomy. But Rufus of Ephesus then appeared to change the scene, and once more place neurology in its proper light. Although it might be inferred from a passage in his writings,† that animals were his only subjects, yet few, who had more ample field of examination, and man himself subjected to their view, have left as much information for us. Agreeing with his predecessors, in ascribing two coverings to the brain, "altior crassior, robustiorque ossi proxima, quæ *pulsatorio* motu cietur; tenuior altera et ferma quidem;"‡ he also mentions the cerebrum and cerebellum, and describes their relative situations,§ and follows Herophilus too closely to allow the ventricles or plexus choroides to escape him. The spinal chord is also accurately described as passing through the foramen magnum and along the vertebræ, even to their termination, adding, "neque propria tamen cerebri substantia est sed emanatio."* He also is the first to remark that the brain, "proque corporis mole large majus est in homini quam in cæteris animantibus reperitur:"* how this remark could have been made, and yet man not have been dissected by him, we cannot state, unless it be, as is probable, that the first passage alluded to is addressed to students, as animals were most easily procured, and man less frequently, though occasionally presented to them. He also proceeds further to remark on the distribution of nerves to the eye, ear, nose, &c.: and not content with this, he adds a concise definition of a nerve,† and continues with a remark little expected and scarcely credible, was it not backed by a fact of much greater importance, which places in a strong light the immense benefit a single man may be to a science, provided that man possesses the faculty of observation conjoined to good sense and invention.

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* Ην μεν οῦν της κεφαλῆς κάτω ϖάθη, τις ἀρχὴ, οκοιον τι τȣ νεωτιαιȣ μενελȣ ἠ μὴνιξ, τὰ ὁμώνυμα και ξυναφέα ϖαραλυεται, δεξιὰ εϖι δεξιοισι, ϗ επ' αριστεροισι λαιά. Ην δε κατάρχη κεφαλὴ, επι μεντοισι δεξιοισι, τα λαια παραλυεται, δεξια δε επαριστεροισι. Aret. c. 7.

* Lib. i. c. 2.

† Lib. i. c. 22.

‡ Idem.

Thus Rufus says of nerves, "obtusi dum inciduntur sensus:" placing in strong light the conclusion that sensation is dependent on these organs: but the "greatest is behind," viz. the annunciation of a fact which the moderns have assumed the credit of having first observed. We shall close the history of this anatomist and our second era, with the following rapid sketch of the *recurrents!* which it appears had been recently observed, but by whom cannot be ascertained. Thus in speaking of the carotid arteries we find this passage, "Cavas autem per collum subeuntes carotidas id est somniferos antiqui nominaverunt, quoniam compressæ hominum sopore gravabant *vocemque adimebant*: cæterum nostro sæculo *non* arteriarum sed *nervorum* sensoriorum prope jacentium id vitium esse compertum est."‡

Thus with a notice of recurrents and the fact that pressure upon them prevents the utterance of voice, concludes our second period: and in conformity with our design we should now commence with that splendid era, in which Galen collected all the scattered lights of antiquity into one strong focus, and whose splendour is increased by the brilliancy of his own inimitable descriptions: but other engagements will not allow us at present to continue this interesting inquiry, which at some future time it is our purpose to resume.

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* Lib. ii. c. 2. † Lib. ii. c. 18. ‡ Lib. i. c. 24.

ART. II. *Observations on* BRONCHOCELE *or* GOITRE. By ALEXANDER COVENTRY, M. D. President of the Medical Society of the State of New-York.

To the Editors of the New-York Medical and Physical Journal.

GENTLEMEN,

Agreably to my promise I beg leave to submit to you some observations on Goitre. Although much has been written on this disease both in Europe and America, yet its cause seems still involved in mystery; and all that has hitherto appeared on the subject amounts only to conjectures and surmises. Having had some opportunity of making personal observations, I will take the liberty of stating them, with the hope of exciting to further investigation on this yet obscure subject.

In travelling up the Mohawk valley in 1792, I first met with goitre among the German settlers; and being informed that some of the early emigrants had come from the Swiss cantons, I at once concluded that it was an hereditary disease, imported by their ancestors from the Alpine valleys, but I have long since been convinced that this conclusion, like many others too hastily formed by travellers, was without foundation. Almost every American who speaks of bronchocele, refers to the vicinity of old fort Schuyler, on the Mohawk river. This proves the habit that writers are in of copying each other, no such place being known for nearly thirty years past. The village of Utica now occupies the scite of the former fort, and if there is a single case of goitre among a population of four thousand souls, it is unknown to me. Dr. Barton, formerly of Philadelphia, in his memoir, and I believe President Dwight, late of New-Haven, speak of a family near old Fort Schuyler as instances of goitre. It is now above twenty years since this family removed from land which I now occupy: and to prevent repetition, I will attempt a short topographical description of the vicinity near Utica.

The Mohawk river occupies the bottom of a valley, which from the summit of one ridge to the other may be seven or eight miles in extent. Utica is in lat. 43° 06′, lon. 75° 13′, about ninety-six miles west from Albany. The bottom of the valley is perhaps 370 feet above tide water, and neither ridge exceeds seven hundred in elevation above the river. On the south ridge, which I suspect is the most elevated, are found quarries of various species of rock from which stones for building are supplied. The beds of the small streams which flow into the south side of the Mohawk, are composed of hard gravel, excellent for repairing roads, &c. On the north side of the Mohawk river, immediately opposite Utica, a flat of clayey alluvion, sufficiently tenacious for the formation of brick, extends nearly a mile, and is joined at its northern edge by a tract of gravelly or sandy loam. After an ascent of 25 or 30 feet this last mentioned tract spreads with nearly a level surface for about three quarters of a mile northerly, where it joins the foot of the ridge. This seems to join the hill, and the alluvion may be called a secondary intervale; from the north edge of this, the ridge rises with a gradual ascent for about two miles, and to an elevation of about 600 feet. At the foot of the ridge wherever a small stream flows, the schist is seen in horizontal layers of a soft friable texture, and when exposed to the air slacks into shelly matter, and soon becomes a black crust. This rock approaches the surface on the south side of the ridge, and on the top is found within a few feet, forming the bottoms of cellars, and obstructing the digging of wells. In fact, the body of the ridge on the north side of the valley at this place is a schistus or slate rock, and differs from the south ridge, in having no other rock superincumbent. All the streams entering the Mohawk on the north side, at this place, run on a bed of shelly slate gravel, which is useless for roads, as it crumbles into an impalpable black dust. In a south-east direction from Utica, about seven or eight miles distant, and behind the north ridge (as seen from the valley) a small stream arises, which, after running several miles with a west course, turns southerly, cuts through the ridge, and winding along the low lands, enters the river a few rods below the bridge at Utica. Although in the summer months all the water of this stream would frequently run through a tube of four inches diameter, yet it has cut down the north ridge to its centre, having removed an immense quantity of the schist, forming a vast hollow, which in the vicinity is called *par excellence* the great gulf. At places the level flat surface of the rock is exposed for one hundred feet in perpendicular height; the stream of course runs on a bottom of slate rock till it reaches the secondary intervale, from which part to its mouth the bed consists of the slaty gravel before mentioned. On the bank of this stream, where the secondary intervale joins the clayey alluvion, stood the house of Mr. Regel, and the brook still goes by the name of Regel's creek.

In the spring of 1798 I settled near Mr. Regel, on the west side of the stream, and within thirty or forty rods of his house, but on the secondary intervale, and considerably higher than his location. Regel's family consisted of himself, wife, four sons, and one daughter, all of adult age, and with one exception, troubled with bronchocele. The old man had an enormous goitre reaching from ear to ear, and hanging down on his breast. His respiration was considerably impeded so that I have heard his breathing at fifteen or twenty rods distance. He resided in this place previous to the revolutionary war, during which he was carried off by the Indians: his goitre was then about the size of a doubled fist, but disappeared entirely while he was a captive in Canada, where he was detained two years. On his return the swelling appeared again, and had gradually attained its greatest size. This man had no other ailment and seemed about sixty years of age. His wife had also a large goitre about half the size of her husband's: three sons had moderately sized swelled necks, the daughter rather larger: the latter had passed a fortnight at Saratoga springs, during which her goitre had by measurement decreased one half. The fourth son, named Frederick, had no signs of goitre. I cannot now ascertain whether he had been brought up at his father's house or not: when I became acquainted with him he resided at a distance of three quarters of a mile, at the foot of the hill, by a pure and beautiful spring, the water of which he used.

There being no well, the rest of the family used the water of the creek spoken of, for all culinary and other purposes. Prepossessed with an idea of the hereditary nature of the disease, I also used the brook water, when towards the approach of the winter, to my no small mortification and vexation, I perceived a considerable goitrous enlargement in the neck of my wife, and an evident thickening in the necks of my two daughters. Then I first began to suspect the water of Regel's creek. The next summer I sunk a well about thirty feet through a gravelly sand, at the bottom of which a quicksand obliged me to sink a curb. The well-water is very fine; and since we commenced the use of it none of my family has been subject to goitre. Regel's family removed to the county of Onandago, and I have been informed recovered from the goitrous swellings: even the old man is said to have got rid of his before death, but this I can scarcely credit.

A few years after this I leased a small house standing near the brook, to a Mr. Walworth, who had a son about twelve years old. This lad in the course of a few months exhibited appearance of bronchocele: he was sent from home, and his neck returned to its natural size; but in the succeeding season began again to enlarge, and the family moved away.

About the autumn of 1802 I put a small flock of sheep into a pasture through which the stream ran: next spring one lamb proved goitrous: the succeeding season every lamb had a swelled neck, and seven out of eight died. On opening the gland, nothing was perceivable but an enlargement. My next neighbour had sheep in an adjoining pasture, which was watered by a spring: his sheep had no distemper. My flock has been kept where they do not get to the creek water, and are now free from the disease.

With these facts before me it was not unreasonable to suspect that the water of the stream had a tendency to affect the thyroid gland. I have to regret that no analysis has yet been made of it, but hope in the course of the summer this defect may be supplied: meantime I am tempted to hazard a conjecture as to the material with which it may be impregnated. We know that the schist is not soluble in water, but readily acted upon by the air, with the oxygen of which it seems to have great affinity. This is observable in a dry season, when the surface of the schist will be covered with a white florescence, which on examination is found to be alum. Near Glasgow, in Scotland, a very extensive alum work is carried on, the material for which is found in the schist rock which forms the side, bottom, and roof of an exhausted coal pit. In this situation the slate exposed to a current of air, but protected from the rain, combines with the oxygen, and in process of time forms sulphate of alumine, from which, I believe, the sulphuric acid is procured.

The crystalization formed on the schist rock, is washed down into the stream by the first rain, and must impregnate the stream with alum: but whether or not this solution would affect the gland, or in what manner, we are not able to say.

Professor Gibson, in a learned essay on goitre, thinks that the enlargement takes place from the obstruction of the small ducts leading from the gland and opening into the trachea. I esteem this a very probable supposition, and it would in some measure account for the effect of an astringent substance.

In conversation with Mr. P. the gentleman who first settled as a merchant at old Fort Schuyler, he informed me that he found several German families residing on the south side of the river, but none of them had goitres. It will be recollected the streams on this side have gravelly bottoms; and although the schist is also found here, and probably underlays the whole valley, it is here overlaid by rock of a different texture. Besides those of the Regel family, there were some other cases of goitre formerly found along the north side of the river: these were, I believe, uniformly in families residing near a run which came from the north ridge. I know of no young person who has a goitre, neither do I recollect a house but what has a well. A gentleman, who resided many years on the river, says that twenty-five years ago bronchocele was frequently seen in his neighbourhood, but is now very rare, and only seen in elderly people: in these instances he can recollect the family lived near some small stream with a slate or slate-gravel bottom: he also observed that wells were much more common than formerly. May not the gradual disappearance of the disease at Pittsburgh be owing to a similar cause?

This disease is found in Switzerland, not on the high mountains or lowest valleys, but in the middle regions, where the ridges are cut deep. I am not sufficiently acquainted with the geology of the Alps, to know what species of rock occupies these regions; but judging from analogy, I suspect it would be schist, which is often found to underlay granite and those hard species of rock which form the tops of mountains: but this is all conjecture, and my chief aim is to invite further investigation.

Since the discovery by Doct. Coindet of the powerful effects of iodine in curing this disease, little need be said on that part of the subject. My daughters were cured by wearing the muriate of soda (culinary salt) round their necks, by which means I have since cured several. I have removed them by mercurial plasters: repeated blistering, and the Saratoga waters will also be found efficacious. As to cicuta curing goitre, I suspect it is only the extract prepared by Ducatel that could do much in that way: indeed I have no great opinion of the powers of cicuta. I have now in possession a statement from a respectable lady, who took three hundred and ten grains in five hours, for tic douloureux, without benefit; this to be sure was not prepared by Ducatel, but procured from one of the most respectable physicians in Boston. I have another case before me, where a man took three quarters of a pound of extract in three days, in large doses; it caused some stupor, but did not cure the neuralgia: he said that the extract was fresh and good. But this is what the lawyers would call irrelevant, as the iodine will supersede the using of any other remedy for bronchocele.

Most respectfully yours,
A. C.

Utica, State of New-York.

ART. III. AN *Account of Circumstances connected with the appearance of the* YELLOW FEVER *at the Island of Ascension in May* 1823; *communicated in a Letter to* DAVID HOSACK, M. D., F. R. S., &c. of New-York, by JOHN THOMPSON, Surgeon of the Royal Navy, and Medical Officer of the British Garrison at Ascension.

AT the request of Captain Sabine, I beg leave to submit to your notice some circumstances connected with the malignant yellow fever, which prevailed at the Island of Ascension in May last; by which it will appear pretty evident that this disease, if not always, is under particular circumstances highly contagious. It may be proper to premise that I have held the situation of medical officer to two several garrisons on this island for the space of two years and seven months, and that I never saw a case of true idiopathic fever until the above period. Its medical topography presents nothing to which we could possibly refer the production of this epidemic. The soil is of a dry and barren quality, composed of mouldered pumice and volcanic ashes, so very porous that the effect of the heaviest falls of rain disappears in a few hours. These circumstances being unfavourable to vegetation, there is therefore very little herbage. Purslane is the only vegetable production that appears capable of existing in so poor a medium, and even that remains in a withered state great part of the year, springing into life after a fall of rain of some continuance. There was also every attention paid, not only to the cleanliness of the people, but also to their localities: the remains of turtle and other animal substances were carefully picked up and thrown into the sea. Hence you will perceive that we could not call in the usual assignable causes to account for this malady: in fact they were not necessary.

On the 25th of April his majesty's ship Bann arrived there from Sierra Leone with forty-five men suffering under this disease, all of whom were on the same day landed, and placed under tents erected about three hundred and fifty yards from the nearest place of residence of our establishment: the communication was interdicted as far as regarded our people and the sick; it could not be cut off entirely with the ship, as there was a mutual dependence on each other's resources, by which it was necessarily maintained. On the 11th of May, being sixteen days after their arrival, a boy, twelve years of age, who was in the habit of passing twice a day by the sick tents to a fowl-house situated a little way beyond them, became affected with a disease exhibiting the same character and symptoms as that which prevailed among the Bann's people; such as great lassitude and debility, coldness and shivering, followed by great heat of skin, severe pain across the forehead, in the back, loins, and calves of the legs, a remarkable fulness and tinged state of the eyes, with a sense of pain on pressure, and an intolerance of light; pulse full and very quick, bowels costive, tongue covered with a whitish mucus, but at a more advanced period it assumed a dark brown or blackish hue in the centre, whilst the edges were of a florid red; thirst very urgent. On these symptoms supervened marks of inflammatory action in the stomach and æsophagus, with great gastric irritability, which could not be subdued by any means in our power. The vomiting in some cases being incessant, with singultus, the fluid ejected presented the appearance of port wine dregs; in a few instances, towards the latter stage of the disease, it became somewhat thicker in its consistence, and darker, resembling coffee grounds. The head also suffered considerably in this malady. Although, on the whole, the gastric symptoms were the most predominant, coma and delirium were sometimes present, with restlessness, anxiety, frequent sighing, palpitation of the heart, with a general nervous tremor in every part of the frame.

The skin, more or less early in the disease, invariably assumed a yellowish tinge, varying in the depth of its hue in different cases: there were no petechiæ or glandular swellings; a hemorrhage from the mouth and nose did occur in a few cases.

As soon as we were thus convinced of the contagious nature of this fever, orders were immediately issued to the people of the garrison, forbidding them to enter the house to which the boy belonged: but notwithstanding these orders were strictly attended to, a female residing a hundred yards from thence became ill two days afterwards, and in less than a month every individual above six years of age was visited by this inexorable malady. There was a small post established about four miles and a half off, upon which the principal garrison was dependent for its supply of water, thus rendering a frequent communication unavoidable. The consequence was, that the morbid poison by which this disease was propagated was, by some means or other, conveyed thither, and applied to the person of an individual who would not otherwise have contracted it, as he had not visited head quarters for some time prior to the arrival of the Bann, and five days only had elapsed from the time the boy was attacked until it was manifested in this instance. From this circumstance, and from the confident knowledge I have that the boy had no intercourse with the sick in the tents, it does not appear to be absolutely necessary to the reproduction of this disease, that the individual who becomes the object of its attack should have previously been in immediate contact, or even in direct communication, with those labouring under it. The atmosphere seemed to have become contaminated and infectious, otherwise I do not see how we are to account for this fever appearing in a family at a considerable distance from that wherein it originally showed itself, and between whom there existed no communication whatever. It is no less evident that the noxious poison which is thus wafted in the air attached itself to the persons, or impregnated the clothes of those people who were employed between the two posts, who necessarily must have conveyed it, but it is somewhat remarkable that none of them had the fever for the first three weeks of its existence on shore, that is, among those of the garrison.

At its commencement it appeared to single out those who were more particularly predisposed to disease, either from debility, bad habit of body, or irregularity in living. This was very much the case with the two first attacked; the boy was very sickly, and of a scrofulous habit; the other, though a young man, had ruined his constitution by dissipation.

There are various opinions respecting the source of this disease in the Bann; and I am unable to determine whether its origin is attributable to the endemical causes which are said so frequently to produce it on the coast of Africa, or whether it depended, as some have alleged, on the influence of contagion derived from a vessel called the Caroline, with which she held communication; or further, whether it had acquired this quality from the accumulation of so many sick in a necessarily confined situation, under a tropical sun, where, notwithstanding the best means are adopted, ventillation must be imperfect. It certainly did not appear on board whilst lying at Sierra Leone, nor until she had been four or five days at sea on her passage to Ascension. There was nothing observable in the state of the weather that could be regarded as likely to produce such a malady, and the proper state of discipline maintained in the ship precluded the possibility of its arising from a want of cleanliness. It however carried off before she reached the island, viz. in twenty days, fifteen out of about a hundred men: during her stay of five weeks, she lost twenty more, making thirty-five. The garrison sustained a still greater loss in comparison to their number: of thirty men who were exposed to the focus of contagion, fourteen died, and only one escaped unattacked. The disease appeared in its more severe form in young people, and particularly if of a full and plethoric habit: as this was the case with the greater number of those attached to the island, they consequently suffered more considerably. Besides the above thirty we had five men employed at the gardens situated near the summit of a high mountain in the centre of the island. Four of these never left the post during the sickness, the other was necessarily employed twice a week in bringing vegetables to head quarters: during these visits he was not permitted to have any communication with the people of the garrison, nor was he allowed to approach nearer than a station given him about fifty yards to windward of their dwellings, his stay seldom exceeding ten minutes. In consequence of these precautions (which could not be adopted in regard to those from the water service,) this man did not contract the fever, nor did he convey it amongst those with whom he resided.

ART. IV. ON *the* YELLOW FEVER *which recently prevailed at the Island of Ascension in May* 1823. Communicated to the Editors by DAVID HOSACK, M. D., Prof. &c.

To the Editors of the New-York Medical and Physical Journal.

GENTLEMEN,

I HAVE recently been favoured by Captain Sabine of the Royal Navy, and by Sir Gilbert Blane, F. R. S. with certain communications on the Yellow Fever as it prevailed at the island of ascension: these I enclose you for publication in your Journal. I cannot but think that you will agree with me that the facts embraced in these papers are of a nature that ought to be extensively known. The communication of Sir Gilbert is one of the number of the documents forwarded to the British board of admiralty: that by Mr. Thompson is from the pen of an able and enlightened surgeon.*

Very respectfully yours,
DAVID HOSACK.

Drs. FRANCIS and BECK.

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* See Article III. of this number.

Letter of Sir Gilbert Blane on the Yellow Fever at the Island of Ascension.

Sackville-street, London, December 15th, 1823.

Sir,—Be pleased to acquaint the Lords Commissioners of the Admiralty, that in virtue of their Lordships' directions, I have been furnished by the Commissioners of Victualling with such documents as have come to their hands regarding the appearance and fatal effects of the yellow fever at the Island of Ascension; and I have procured further information of the Paymaster of Marines. I have also been favoured through the politeness of Dr. Burnet, one of the Medical Commissioners of the Victualling Board, with the sight of a private letter to him from the commander of the Bann sloop of war, from which I have derived important information on the same subject.

The result of all these sources of information is, that from the time the fever showed itself on board his Majesty's sloop of war Bann, a few days after her departure from Sierra Leone, on one of the last days of March last, the crew at that time being all in perfect health, till her arrival at Ascension on the 25th of April, there died thirteen men, and twenty between that time and the 2d of June, when the epidemic was supposed to have ceased: and that by a report, dated the 5th of August, there died of the garrison, among whom the disease broke out a few days after the arrival of the ship, sixteen men, five women, and four children; besides one child, stated in the report to have perished for want of sustenace after the mother's death.

In order to estimate the rate of sickness and mortality in the crew of the Bann, it is necessary to state that there were mustered on board of her,* on the 31st of March, one hundred and seven men and officers, being only three short of complement;

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* These facts are taken from the Muster-books deposited at the Navy-office.

besides twenty-nine supernumeraries, native Africans. It appears that no death occurred among the Africans, so that nearly one third of the ship's company was carried off by this disease. It appears by the Surgeon's journal, that ninety-nine had been seized with it; and I was informed by the paymaster of marines, that it appeared from his correspondence, that of the twenty-eight men and officers first stationed at Ascension, in September 1821, there died none; nor was there even a single case of sickness among them from that time till May 1823, a few days after the arrival of the Bann. During this time the garrison was neither increased or diminished. But the rate of mortality is not to be computed on the number of twenty-eight, for there were six men at a distant post to whom this disease did not extend; so that out of twenty-two there died sixteen, that is, somewhat more than three-fourths.

Two men belonging to his Majesty's ship Driver also died at the island, of this disease. The death of Capt. Saumarez, of the Bann, which happened subsequently to the above report, being added to these, the total loss of lives, amounts to the number of sixty-two, including the child.

As this garrison was quite healthy at the time of the arrival of the Bann, there can be no doubt of the disease being contagious; and the medical officers, upon whose conviction of its not being so the commanding officers omitted to take any effectual means of cutting off intercourse between the ship and the garrison, have since, in their official communication, explicitly declared their change of opinion. At the same time, they described the disorder as possessing the true characteristics of the yellow fever, in that aggravated and infectious form, in which it has shown itself in the West Indies and North America and Spain. The detailed account, given by the surgeon of the Bann, leaves not the least ambiguity regarding its nature; for, among other symptoms, he enumerated "the skin tinged with yellow, assuming a deeper and deeper hue;" and, "before death, the vomiting of a dark-coloured fluid like coffee grounds:" these are characteristics which will apply to no other epidemic.

Without entering into any detailed history of this disease, far less of the controversy regarding it, it may be satisfactory to their Lordships to be informed, that the first account of it on record in the British Colonies in the West Indies, is that of Barbadoes, in 1647, and in North America, that of 1693, at Boston, to which it was carried from Martinique, by the fleet under Admiral Wheeler. In Europe, its first appearance was at Lisbon, in 1723. From these periods it continued to make its appearance in all these regions, but at long intervals, particularly in North America and Europe. But in 1792, a new era of its prevalence commenced, for since that time it has been infinitely more frequent and fatal in the West Indies and North America. This increased prevalence did not commence in Europe till the year 1800, when it appeared at Cadiz in all its horrors, after an interval of thirty-six years. Since that time it has visited this place four times, and has spread from thence to other sea-port towns in the south of Spain, at short intervals. Among other places in this line of coast, it has visited Gibraltar; first, in the year 1804, when more than one-third of the garrison and population were carried off, and several times since, but with little loss, on account of the preventive means adopted, means which had been wholly neglected at the first visitation.

It is remarkable that this pestilential epidemic has never shown itself except in tropical climates, or at those seasons, in temperate climates, in which the heat ascends to the tropical height. This has, perhaps, been one of the chief causes of the disbelief of its infectious nature. But not to mention the establishment of it, by evidence, as a matter of fact, it may be remarked, that in this respect it bears a close analogy to the true plague, which has never been known to exist but under one particular range of atmospheric heat, though lower than that of the yellow fever; for it is only in temperate climates that it has ever prevailed, having never been known between the tropics or within the polar circles. It even disappears in temperate climates during the solstitial heats, which equal the tropical, as is well known in Lower

Egypt; and in the north of Europe it becomes extinct in winter.

Another cause of the incredulity regarding this fact, is the great resemblance it bears to that form of the yellow fever which is at all times more or less endemic in the West India islands. This, in ordinary circumstances, is not contagious, but becomes so when it is engendered and fostered by corrupted human effluvia, under those circumstances of foul air occasionally created by crowding, filth, long privations, hardships, and defective ventilation, more particularly incident to ships and to times of war. It is under such concurrence of incidents that this fever takes on a more intense virulence and a contagious character, whereby it propagates and spreads itself n the manner of a pestilential epidemic.

What I wish most anxiously to press on their Lordship's attention is, that a great proportion of the medical officers of the navy, like the two alluded to (before what they witnessed at Ascension,) are said actually to disbelieve in the contagious nature of this fever in any of its species, forms, or circumstances.

Their Lordships will readily apprehend, from what has happened on this small scale, what must have been the effect of this opinion, if erroneous, held by those whose duty it is to suggest the necessary precautions in the case of the fleets, armies, garrisons, and great towns, which have been exposed to this malady for the last thirty years, on the continent and in the islands of America; and for the last twenty-three years, in the south of Europe; and what must in future be the effects of this singular delusion, should it continue to prevail, and be acted upon as heretofore, in his Majesty's service by sea and land.

Deeply penetrated with these sentiments, I feel myself irresistibly called upon humbly to submit to their Lordships, whether some steps might not be taken, under their authority, for promulgating these and similar truths, with a view to enlighten and guide naval officers, military, and medical, in the exercise of this part of their duty, so that such a cautious system of conduct may be adopted as may prevent the recurrence of the like calamitous and tragical events in all time to come. I am inclined to believe that, as the greater part of the medical officers of the navy, as well as the army, are now well educated, and of a highly respectable character, it is from a want of due information that this fatal error has prevailed so much; for there are already on record many facts, as strongly in evidence of the contagious nature of the yellow fever as those that have so recently occurred at the island of Ascension, which, were they generally known, could hardly fail to carry conviction to every rational mind. Of this kind might be quoted the various instances of the communication of this disease from one ship to another in the middle of the ocean. It is obvious that any one of these facts, duly attested, would, by all the laws of evidence, be sufficient to substantiate the proof of this point, so as to decide the question; and the force of so many could not fail to prove irrisistible, were they generally known.

In apology for this long address to their Lordships, I take leave to plead that, besides the great importance of the subject, it has been my lot, for the last forty-four years, to have either been engaged in actual employment in the medical service of the navy, and occasionally in that of the army, or, in the absence of such employment, to have devoted an almost unceasing attention to such studies; and I have felt none of my duties more imperious than that of inculcating, to the best of my judgment, a just manner of thinking on the subject of infection in general, and particularly that of the desolating malady now in question. I trust, therefore, that my earnestness on this subject will not appear to their Lordships in the light of an improper and officious interference, proceeding, as it does, from a person not in actual employment. I feel, further, that what I now do is not unbecoming of me in the character of first Physician to our Sovereign, and as an act of gratitude and duty for those rewards and tokens of approbation which I now have the happiness to enjoy from his Majesty personally, as well as from the state; not to mention that call upon every well-disposed person to take a serious interest in matters which involve the fate of so many human beings, and of so many of his fellow-subjects of the most valuable class.

I have the honour to be,
Sir,
Your most obedient humble Servant,
(Signed) GILBERT BLANE.

To John Wilson Croker, Esq.
Secretary to the Admiralty.

P.S.—My fear of trespassing on their Lordships' time and attention having induced me to make my statements in as few words as possible, I have perhaps done wrong in omitting some important circumstances which I shall here advert to as briefly as possible. A few days before the Bann sailed from Sierra Leone, the captain sent some of his men on board of a merchant ship called the Caroline, to assist in bringing her to an anchor. This ship had lost by the yellow fever almost all her hands, to the number of twenty, none having survived but the master and two others. There was also, at that time, an unprecedented loss of lives from the same fever among the white inhabitants of the settlement. It is described, in the reports made to the Medical Board of the Army, with a sight of which I was favoured, as a fever widely different from the ordinary fever of the country, both in its symptoms and in its degree of malignity; such, indeed, as had never before been known in that colony, and as occurring at a season of the year which is usually the most healthy. It is also worthy of remark, that his Majesty's sloop of war the Driver, which had lain at Sierra Leone at the same time with the Bann, arrived at Ascension with all the crew in health; and that I found, by inquiry of the master of the Caroline, that none of the ship's company of the Driver had been on board of his ship, nor had any intercourse taken place between the two ships after the breaking out of the fever. Some of the men of the Driver, he said, had been on board of his ship. but this happened many days before the sickness had commenced.—G. B.

Art. V. On *the Misapplication of* Blisters. By Thomas A. Duffy, M. D. of New-York.

It might naturally be expected, from the every-day application of blisters, that nothing new could be offered on the subject; but experience convinces me that no class of remedies is so frequently misused. In the opinions which I shall offer, I am aware that I am opposed by the ordinary practice of the present time; if, however, established principles can be brought forward to prove the solidity of the subsequent assertions, there can be no reasonable objections to the reform proposed.

It is an acknowledged fact in medicine, that two excitements cannot well exist at the same time in the constitution: it is partly upon this principle that blisters are employed. Now, in a highly irritated state of the system, where the vascular excitement is great, any thing which may have a tendency to increase that state must be decidedly improper and injurious. Any thing which does not possess a force more than commensurate with the existing excitement, cannot, according to the aforementioned principle, exert any influence on the reduction of it. If these conclusions be correct, I think it can be clearly proved that blisters, in the way that they are generally used, frequently are the cause of much confusion to the practitioner and mischief to the patient.

In the majority of inflammatory diseases, blisters are applied immediately, without reference to the stage of the disease, or habit of the patient; and we know that there are some individuals, who are of so sensitive a nature, that the slightest irritant will produce very great general derangement: it is also a fact, that in inflammations of important parts there is always great constitutional excitement; and there is no other means of relieving this, but by a removal of the cause. If, therefore, it be admitted, that for the removal of a diseased action, it requires something which by lessening it relieves it; or by an action peculiar to itself, causes a new excitement, sufficient to overcome the one existing; it only remains to be proved that blisters cannot produce this change in the commencement of inflammatory diseases, and the argument will be conclusive. It is the general practice of this time in inflammatory diseases of an active nature, first to abstract a quantity of blood, (and that generally not too large,) to purge, and then to have immediate recourse to a blister. Now, however correct this practice may be in a few instances, every practitioner who pursues it, must have observed, that most generally at his return to the patient, the force and frequency of the pulse are increased, the heat and dryness of the skin greater, and indeed all the symptoms aggravated.

How is this increase of excitement to be accounted for? Depletory measures have been used so as to reduce the frequency and force of the pulse: surely these means would never have augmented the action, for their tendency is directly opposite. What then must be the cause? Nothing else but the premature application of a blister, before the symptoms of violent excitement had subsided. In pneumonia typhoides, for instance, where the application of blisters is peculiarly useful, the too early employment of them is generally attended with the most fatal effects. We are sent for to see an individual labouring under this disease: according to the customary practice, the patient is made to lose a small quantity of blood, he is purged, and a blister applied immediately over the seat of the disease: mark the sequel. The physician at his return finds the action increased tenfold: if he follow the rules of practice, he must bleed again; he does so without referring to what might have produced the renewed action; and by treating the combined effects of the excitement produced by the blister and that caused by the disease, he either kills the patient, or else leaves him in that state of debility, from which it will be almost impossible to recover him. We will even suppose that the physician is perfectly aware of what produced the increased action, and that he abstains from bleeding; nevertheless, the violent excitement caused by the premature application of the blister prevents the operation of medicines which otherwise would have acted beneficially, and causes an earlier supervention of the typhoid symptoms. I would not be understood to say that blisters are of no use in inflammatory diseases: on the contrary, I think, that under certain circumstances and in certain stages, there are no remedies upon which we can place so much confidence. Where, for example, the patient is naturally of an irritable habit, and is at the same time labouring under a disease of excitement, the employment of blisters until that excitement is in a great measure reduced, can upon no principle be justified. But in the passive stage of the disease, where the vessels are labouring under debility from strong previous action, blisters are particularly useful, not only by the local stimulus they exert, but by producing increased general excitement, and enabling the system to overcome the diseased action. Thus blisters, when properly employed, become not only remedies of great local importance, but produce a happy effect upon the constitution, which never could have been obtained under any other circumstances. In the commencement of simple inflammatory fevers, blisters are equally inadmissible, from the tendency of those diseases to run into the typhoid form: when, however, the excitement is somewhat subdued, blisters, by causing a new, general, and healthy action, effectually put a stop to the complaint. During the time of my practice in the West Indies, I observed that early blistering always aggravated the disease, by producing an increase of the febrile action and delirium: but when a different form of treatment was adopted, viz. first to lessen the excitement by the usual means indicated, and then to apply blisters, the success was certain in the generality of cases. If the principles which have been advanced are correct, it follows, that the plan of treatment in phlogistic diseases should be, first to reduce the increased action, by means of bloodletting, cathartics, &c. and then to employ blisters; for nothing in these diseases, short of a diminution of the quantity and force of the circulating mass, will produce a sufficient impression on the system; the subsequent application of blisters can then be attended with no bad effect: but their whole tendency will be to produce a new action, and must benefit the patient.

These remarks concerning the impropriety of applying blisters in the active stage of local inflammation are applicable in an especial manner, in my opinion, to the treatment of the yellow fever of the West Indies. In this form of febrile irritation, the liver is acknowledged by all to be primarily affected. Under such circumstances blisters, had recourse to before the use of the lancet, have been known to add to the excitement of the system, and to aggravate the gastric irritation. When, however, the physician shall have been duly efficient in the use of antiphlogistic remedies, the counter irritation produced by blisters are among our best means of relief.

ART. VI. CASES *of* AMENORRHŒA *successfully treated by Injections of Aqua Ammoniæ.* By JOHN W. GLONINGER, M. D. Pennsylvania.

CASE I.

Mrs. C—— R——, aged about thirty-two years, in the month of July 1822, contracted a quotidian intermittent, and in consequence became affected with a suppression of the catamenia. The fever was removed, after resisting other medicinal agents, by the use of prussiate of iron. Previously to my advice having been solicited, a variety of family remedies had ineffectually been tried for the removal of the uterine obstruction. Her health was much impaired, her feet and legs œdematous; she complained of great oppression at the chest, vertigo, pains in the back part of the head, in the lumbar and hypogastric regions, loss of appetite, and had had a slight pulmonary hemorrhage, which I viewed as vicarious to the menstrual discharge. Considering the pulse in a favourable condition for emmenagogues, I placed her successively under the use of rubia tinctorum, polygala senega, tinctura melampodii, tinctura lyttæ, sulphate of iron, aloetic and mercurial preparations, without in the least experiencing any benefit from any of them. Having in preceding cases of amenorrhœa seen good effects from the use of the tincture of gum guaiacum, prepared agreeably to the formula, and exhibited according to the directions of Dr. Dewees, when other emmenagogues had proved unsuccessful, I had recourse to it in this case, but after a steady perseverance with it for a considerable time, I was mortified to find, that the feelings it had created, portending an irruption of the catamenia, and the expectations formed of its use, were equally delusive. In the beginning of February last I availed myself of M. Lavagna's mode of treating amenorrhœa by the use of an injection per vaginam of aqua ammonia and warm milk, in the proportion of ten drops of the former to an ounce of the latter. The injection was exhibited four times a day for eighteen days, at the expiration of which period the menses appeared.

CASE II.

Mrs. M—— E——, aged twenty-four, had the menses suppressed in consequence of getting her feet wet last summer, while she was very warm from exercise: since then she has been indisposed with the symptoms commonly attendant on amenorrhœa, such as loss of appetite, nausea, constipation, fetid breath, vertigo, erratic pains in different parts of the body, &c. A great variety of domestic remedies having unsuccessfully been used, I was consulted on the 29th of November last. The pulse was full and tense, her habit was plethoric, and as the pain in the head and at the umbilicus was severe, I abstracted about twelve ounces of blood, ordered cups to be applied to the forehead, and administered a dose of ipecacuanha and calomel, with the view of cleansing the primæ viæ. After using the ordinary emmenagogues for some time without affording any relief, I strongly advised a trial of the injection per vaginam of the aqua ammonia and warm milk, to the use of which she at first objected; but through the intercession of some of her friends, a submission to the proposed treatment was obtained. Accordingly the injection was directed to be used in the same manner as in the preceding case, and the effects produced by it were equally gratifying; for in the course of two weeks the menses appeared, and have since regularly returned.

ART. VII. OBSERVATIONS *and* FACTS *concerning the* SIREN LACERTINA *of Georgia and Carolina; in a letter to* GEORGE BOND READ, *M. D. President of the Medical Society of Georgia, &c. dated May* 28, 1824. By SAMUEL L. MITCHILL, M. D. LL. D. Professor of Materia Medica in the College of Physicians and Surgeons of New-York.

[Read before the Lit. and Phil. Soc. of N. Y., 13th May, 1824.]

AFTER several dissections of Sirens two years ago, the arrival of five more, three living in their native mud, and two dead ones preserved in spirits, from my friend Henry T. Farmer, M. D. of Charleston, South Carolina, has enabled me to examine for myself their structure and manners more particularly than I had ever an opportunity to do before.

It might seem that a subject which had been agitated for half a century, concerning the double set of respiratory organs, gills and lungs, ascribed to this reptile, ought to have been definitely settled long ago. After a long and serious controversy, it is remarkable that the most correct of the modern opinions, coincides substantially with that of Garden, Ellis, and Linnæus, the earliest observers, that there is a twofold apparatus for breathing.

In the remarks I have to make at this time, I shall first give a brief history of the dispute; secondly, a statement of the principal points that have been debated, and the actual condition of the controversy; and thirdly, an expression of my own opinion on the anatomy and physiology of the Siren lacertina.

I. A concise sketch of the proceedings concerning the siren and other reptiles of a doubtful character.

1. As long ago as 1807, M. Cuvier read a memoir to the National Institute of France on their organization. It was composed more particularly on the Axolotl of Mexico; and has been published with engraved illustrations, in the collection of observations in zoology and comparative anatomy, made between the years 1799 and 1803, by Messrs. Humboldt and Bonpland, on the Atlantic Ocean, in the interior of the new continent, and in the South Sea. 4to. &c. From the most careful dissection and an acquaintance through original observers of the habits of the siren and proteus, he pronounces them to be perfect animals; while the Axolotl must be considered only as a larva (see vol. I. p. 123.) There are three figures of the siren annexed, in which, among other matters the distribution of the blood through appropriate arteries to the gills or branchiæ, and its return by the veins are clearly shown.

2. Benjamin S. Barton, M. D. & P. who did much for the natural science of our country, published in 1808 the observations he had made in Philadelphia on the Siren lacertina, in the form of a letter to Professor J. G. Schneider of Saxony. In this publication he repels the notion expressed by that able zoologist, that the Siren lacertina is a larva or tadpole; and states his conviction that it is a finished animal, which never loses its branchiæ or gills; (p. 5.) but continues to breathe by means of them as well as by lungs the whole term of its life. He affirms (p. 11.) that the siren, as Garden and Linnæus both asserted, breathes by gills and by lungs. It breathes, he thinks, much more frequently by the former than by the latter of these organs. Indeed while the animal remains in the water, the branchiæ are almost incessantly in motion. During the more considerable movements he could plainly discern the three pectinated apertures under the branchiæ rapidly opening and closing. When the siren is at rest in the water, it employs its branchiæ with the greatest vigour as organs of respiration. When the siren swims, if Dr. B. is not greatly mistaken, the branchiæ are but of little use as organs of respiration. He thinks they act as the feet do, as members to assist the creature

in speeding its way through the water, or as the fins do in fish. He has known from observations on the individuals under his own eye, a siren to remain under water (p. 13.) for sixty-five minutes without coming to the surface. During this interval the siren continues almost motionless, and the motions of the branchiæ were very inconsiderable.

3. During 1817 Cuvier arranged in his *Regne Animal*, Vol. II. p. 103, the siren among the batracian reptiles, as possessing both gills and lungs.

4. It might seem after these disclosures, that the controversy was at an end. Yet this was far from being the fact. For, during the last mentioned year, Dr. Mauro Rusconi published a minute and elegant work in the Italian tongue, entitled "an anatomical description of the organs of circulation in the larva of water salamanders," in the form of a letter to Sign. G. B. Brocchi of the Royal Institute. This came forth at Pavia, in 4to. In this performance the author maintains the opinion that the modern zoologists are mistaken, (p. 28, 29,) in affirming that the Siren lacertina of Carolina and Georgia is a perfect animal. He is firmly persuaded that the creature must be an immature production not yet fully unfolded or developed. In page 45, he recommends an examination of the skeleton for the purpose of determining from the bones which compose it, whether the animal was fully grown and adult, or not. In page 46–47, he expresses the sentiment, that even in an animal so large as the Siren lacertina, it would be impossible to see and follow all the principal arteries by injection in specimens that had not been examined immediately after death, but which had been immerged a long time in alcohol spirit. And from a comparison (p. 40,) of the skeleton of the Siren lacertina with that of the Proteus anguinus, he derives arguments to confirm his opinion, that the former is but a larva, or incomplete animal.

5. In 1819 came forth, in the same city and language, the splendid work, in imperial 4to. on the Proteus anguinus of Laurenti, with superb plates of Peter Configliacchi, Professor of physics in the university there, and Dr. Rusconi, lecturer on

physiology, &c. "If you have," writes the latter to me in his epistle of November 4th, 1820, "a spare specimen of the Siren lacertina in your collection, I should be unspeakably glad to receive it, and delighted beyond measure to dissect it. You will find in the perusal that I differ from Cuvier, who considers it a perfect animal. I therefore feel a peculiar desire to anatomise this larva, and to peruse the memoir of Professor Barton, as thereby, I am persuaded, I should find new arguments to confute the opinion of that famous zoologist. The Chevalier Valentin assures me," &c.

In this elaborate performance the authors consider themselves as having demonstrated that the Siren lacertina is only the larva of a water salamander, and that zoologists have been mistaken in supposing it a perfect animal. They believe also that the many observations they have made on the Proteus anguinus while living, and the dissections they have conducted after death, satisfactorily show that it is a perfect animal, furnished *with gills but not with lungs*. Whence the distinguished zootomists draw the conclusion, that there is no animal in existence that has gills and lungs in use at the same time.

6. The inquiry just mentioned was apparently promoted in a considerable degree by the printed description of the Proteus anguinus by the celebrated Schreibers; a copy of which I had the honour of receiving from him at Vienna, with a specimen of that curious and rare reptile. Among others it contains these sentiments: "it breathes by external naked gills after the manner of batracian gyrini: but they are many-cleft, and endure through the whole life: it respires too by lungs, truly arbitrary, very simple, and exceedingly like the air bladders of fishes: but they are double, and furnished with a trachea and glottis, as other batracians are."

7. Still later, to wit in 1821, Dr. Rusconi published another laborious and instructive work at Milan, in French, 4to., with five coloured plates, under the title of "the Loves of the water salamanders, and the development of the tadpole of these salamanders from the egg to the perfect animal," &c. It is intended to elucidate the difficult, intricate, and unde-

cided structure of the Siren lacertina, as well as the *salamandra exigua* (newt or spring lizard,) and the congeneric and analogous families of batracian animals; for which purposes it is a prime work. For curious representations of their amours, the first and second plates are worthy of being consulted; for their hatching and growth on the leaves of the polygonum, (persicaria,) the delineations on plate third are admirable; and the anatomical displays on the fourth and fifth plates are well calculated to explain the constitution and function of these aquatic reptiles.

8. It happened in 1821 that I had for the first time an opportunity of dissecting a siren. Aided by my friends Dekay and Anderson, the following memorandum was made on examining the specimens which had been preserved in spirits: "Larynx before and under the pharynx. Trachea bifurcating behind the heart; from it bronchial tubes are extended with a pulmonic structure that is cellular, and terminates on each side, not in bags, but in points formed by the structure becoming gradually narrower. As they proceed from the lower or posterior half of their length, they end on each side under the kidneys."

9. It is the opinion of Captain Le Conte, in a paper published in the Annals of the New-York Lyceum, p. 52, (1823,) that the Siren lacertina has lungs, but not gills; in which case the fimbriated appendages to the neck are to be considered mere opercles or covers to the spiracles or breathing holes near them.

After these and other researches on the subject of these remarkable creatures, the things to be investigated concerning the Siren lacertina, which is sufficiently proved to be a perfect animal, are these two: 1. What is the real constitution of the circulatory organs? and 2. Is its respiration performed by gills after the manner of fish, and also by lungs after the manner of reptiles generally?

II. Summary view of the points in debate, and of the present state of the controversy.

1. On the Proteus anguinus.

Schreibers, Cuvier, Rusconi and Configliacchi, all agree that the four-footed reptile of the subterranean lakes in Carniola, is not a larva, but a perfect animal.

They differ, however, concerning one very important matter: for Schreibers and Cuvier contend that the creature is endowed with a two-fold set of respiratory organs, lungs, and gills; while Rusconi and Configliacchi affirm that no living being has such a double apparatus in use at the same time, and that the Proteus anguinus possesses branchiæ or gills, but not lungs. They declare the sacs or bags receptive of air, resemble the vesicæ natatoriæ of fishes. Yet these acute observers are at a loss to determine their real function.

2. On the Siren lacertina.

The zoologists are divided in opinion. Garden, Linnæus, Barton, Cuvier, and Le Conte, consider it as a perfect animal: but Rusconi and Configliacchi are strenuous in the opinion that it is only the larva or tadpole of some water salamander.

Le Conte states that the female siren has often been examined by him in full roe or spawn; that is filled with ova or eggs, while the gills or opercles were complete; whence a conclusive inference may be drawn that it is a complete and finished animal. Concluding thus it is a perfect creature, the same accurate observer does not admit that the neck-appendages are gills or breathing organs, but inclines to think the sacs or bags within the body perform the respiratory function.

On the other hand it must be observed, that in an animal similarly organized in this respect, to wit, the Proteus anguinus, Rusconi and Configliacchi repel this notion altogether; alleging that the cervical fimbriæ, or fringes, are real branchiæ or gills, and that the air-sacs in the body, answer some purpose to them unknown.

Dissection having shown that there is a near resemblance in the external appendages, and the internal sacs in the proteus and siren, it is fairly presumable that the same interpretation of the functions of these several organs applies to both. If therefore the physiology of the siren can be determined as to their use, respectively, the same reasoning will apply to the proteus.

3. On the salamander, including the other creatures strictly batracian, as the lizard, toad, and frog.

It is agreed by all zoologists, that the eggs of this order of reptiles are hatched first into a larva, or masked being, called a gyrinus or tadpole, having excrescences on both sides of the neck, performing temporarily the office of lungs, but shriveling up or dropping off, when the individual undergoes a further metamorphosis, and assumes the character of a perfect or complete animal. It is also understood that these branchiæ, or gills, act only until the lungs are evolved and brought into play; but do not perform any pulmonic or respiratory function after the lungs are capacitated for breathing. In other words, these reptiles employ gills and lungs in succession, or one after the other; but not in conjunction, or at the same time. They have not, therefore, a two-fold, or double and co-existent set of respiratory organs.

It having been admitted on all sides that the proteus is a perfect animal, and it being demonstrated by American zoologists that the siren is likewise a perfect animal; the anatomical and physiological history of larvæ, gyrini, or tadpoles, has no application to them.

In the conflict of opinions concerning the respiratory economy of these animals, all parties admit that they breathe or perform a respiratory function. But it is by some still demanded whether this is effected by gills and lungs jointly? by gills alone? or by lungs or internal sacs, without the aid of gills?

It would seem a very natural and rational inference from the persistence of the fimbriated appendages covering the spiracles or openings in the sides of the neck, through the whole life of the creature, that they are not useless members of the body, but execute some important office. There is none so probable as that they minister to the limited breathing of animals having cold blood, and languid circulation. In this respect, the siren and proteus seem to connect reptiles with fish.

III. The signification of my own sentiment on this controverted and complicated subject.

My observations will be arranged under two heads: 1st, those made on dead sirens: 2d, those made on living sirens.

1. The zoological description is so well known, that there is no need of introducing it here. My notices will therefore be confined to the (*a*) respiratory, and (*b*) circulatory organs. It affords me pleasure to state that in my researches made within a few days, I was aided by my friends Dr. Samuel Akerly, and Dr. Frederick A. King. To the former of these gentlemen I owe the drawing which accompanies this memoir; and by the latter I was assisted in the dissection.

(*a*) It is certain that the siren has a glottis, or rima glottidis, a quarter of an inch or thereabout, posterior to the os hyoides. It appears in the form of a longitudinal slit, with muscles for closing and opening it. There is a small elevation before; and two grooves proceed a short distance obliquely downward and backward, toward the spiracles or cervical openings. Those parts may be considered as the larynx.

There is no more doubt to be entertained that a tube like a trachea exists. It extends half an inch or more, as a single or undivided canal, on the upper side or in rear of the heart, until it approaches the diaphragm.

The evidence is quite strong that there are bronchiæ; near the diaphragm, the trachea divides into two branches, which enter into and communicate with the lungs, if the air sacs or bags may be so called. Within the abdomen are two receptacles of air, and on each side of the vertebral column. They have a flounced or puckered appearance, and extend in some individuals beyond the vent. Their posterior extremities end in points by gradually tapering away. A probe can be readily introduced into them from the throat, and it is perfectly easy to fill them with air or quicksilver. As the creature has no ribs, and these air vessels are in the belly, the air is probably inhaled by the action of the muscles about the throat.

The existence of external appendages, one on each side of the neck, is evident to the most superficial beholder. They are very different in appearance from the opercula or gill covers of fish. They have a more near resemblance to gills themselves; but instead of being naked, in their exposed situation, they are covered with skin or common integument. The striking difference between the gills of sirens, and those of fish, consists in this, that in fish the branchiæ are placed upon and along the curved cartilages called branchial arches, and covered or protected by the opercles, or gill covers; whereas in sirens, the cartilages in the spiracles or cervical openings are destitute of gills, which are transferred to the sides of the neck, just in front of those passages, and fold over them: and these transferred branchiæ having no opercula or covers, are guarded from external injury as the other parts of the body are. It must be observed, however, that the branchiæ thus constituted are so far divided and subdivided as to allow air, water, and the mixture of the two, to be applied to an extensive external surface, though doubtless with less effect than to the branchiæ of fish.

(*b*) The heart, consisting of one ventricle and one auricle, sends off a large pulmonary artery toward the head, which divides into three branches on each side, corresponding to the three several groups or bundles of fringes into which the branchiæ ramify. These arteries bring blood fresh from the heart and carry it to the gills, whence it returns by corresponding veins.

From the heart also proceeds an aortal artery, which descends along the spine and distributes branches to the air-sacs, the viscera, and the rest of the body; whence it returns by a vena cava. It is consequently established that both the organization of the siren for breathing and for distribution of blood, warrants the conclusion that there are air sacs within, and gills without the body, to and along which the vital fluid circulates.

2. The physiology of the siren can, I presume, be determined only by a careful observance of its habits, life, and manners in its living state, and in its native element. That element is not water, but mud. The observations heretofore made upon sirens kept in water are therefore imperfect and unsatisfactory; inasmuch as they are not aquatic animals, and when kept in pure water, are not in a situation that is natural to them, but though placed where they may not only live, but even live a long time, they are nevertheless in a forced, and to them, a constrained and unnatural condition. It is not therefore to be expected that the facts gathered from sirens kept in water would be so instructive as those collected from them while living in their native mud. It was my good fortune to obtain them in full health amidst their native mud from South Carolina, in an ample and convenient tub.

There is no doubt about the reception of air into the internal bags or sacs of the abdomen. On considering the operation of air after its admission, upon the sacs, and of the sacs upon the air, there is warm altercation. If respiration is provided for by cervical appendages or branchial fimbriæ, the existence of another set of organs for breathing might seem wholly superfluous and unnecessary. But as these capacious sacs exist, and occupy much space in the siren's abdomen, there is ground to suppose they are intended for some valuable purpose. It is a desideratum of some consequence to discover the exact function they perform.

From the simplicity of these sacs or bags; from their extent and capacity; and from the condition in which they are found after death, it may be questioned whether they are strictly lungs, in the sense usually applied to that term. It is a proper subject for inquiry whether they perform respiration to full extent, or partially, or not at all. I think it highly probable their principal function is to receive and contain a quantity of air, which is derived from the atmosphere by the mouth, and gradually emitted in small quantities, or minute bubbles, sometimes by the mouth, and sometimes through the cervical holes or spiracles. When discharged by the mouth, it may be supposed to have undergone a respiratory operation in the sacs; when discharged through the spiracles, it may be considered as unchanged or unrespired air. Under this view they may be considered chiefly as reservoirs or gas-holders, whose leading function is to afford an occasional supply, in minute portions, pro re nata, of respirable or uncontaminated air to pass through the spiracles, and be conveyed through the medium of mud and water to the gills, whenever the external medium shall yield an insufficient supply. The creature is thereby enabled to live longer in its native element than would otherwise be possible, and where its life and existence are in mud abounding with the recrements of corruption and the wash of nastiness, a more than common organization for breathing would seem to be requisite. Such a provision prepares the animal for its peculiar habits and its obscure destiny.

The subject admits of elucidation from the remarkable structure I have observed in a mammiferous animal. Arguments from analogy are not always conclusive; but they sometimes afford important illustrations. The *phoca cristata* or *hooded seal*, has a sac or bag of considerable size on the top of its head, over and above the septum of the nostrils. This is open through to the nares before and to the fauces behind. The individuals of the phoca, or seal family, have the power, by means of orbicular muscles, to close the orifices of their noses very accurately, and of thereby excluding the entrance of water: and like other mammalia, enjoy also the power of closing the posterior nares by the velum pendulum palati. As far as I understand the use of this hood or sac on the crown of the head, it is an air-bag or receptacle of the atmospheric gases, to be filled and inflated at the will of the animal. When it is on the surface of the water, and intends to dive or sink, a quantity of air may be received into this cavity, and retained there, by closing the anterior and posterior nares. During the submersion, the lungs, which are inflated at the time of going under water, may discharge their vitiated or unvital air through the mouth; and by opening the posterior nares, while the anterior nostrils remain closed, there is a transfer of atmospheric air, from the hood or sac, to the evacuated lungs. And thus the creature is enabled to prolong its stay below the surface or in the deep, for an inhalation longer than could otherwise happen, or for the duration that the hood or sac will furnish fresh air. Now, as far as this analogy extends, it goes directly to the illustration of a receptacle or reservoir which is not a pulmonary organ, but an occasional auxiliary to the function of respiration, according to the volition and need of the individual.

In order to understand the living functions of the siren, it must be remembered that it is a native of the swamps, living in mud, and not in clear water.

All the observations heretofore made upon individuals of this species, by gentlemen who have attempted to investigate their habits and manners, in tubs or vessels of water merely, are to be considered as having been bestowed upon them in a forced and unnatural state. The siren, who never quits without violence his native mud, has been contemplated by the zoologists and zootomists of the day, as an aquatic animal, like the newt or spring lizard (water salamander.)

Having been fortunate in receiving living specimens from South Carolina, nestling in their muddy element, I have observed their manners and habits with strict attention. Though kept in a half-barrel, sufficiently capacious for their motions, they never rose above the surface of the mud, nor crept about in the water with which it was sometimes covered to the depth of two or three inches. They concealed themselves within the mud, except their heads; these were usually visible in a hole resembling that in which eels often hide themselves. The greater part of the time their feet and gills were out of sight. But there seemed to be space enough around for the head, feet, gills, and spiracles to be surrounded with water or attenuated mud. When disturbed by the approach of the finger or any foreign body, or even sometimes by walking across the floor or agitating the vessel, they shrunk into their holes, and withdrew entirely from view. When left to themselves, they would in a short time creep up again, and sometimes elevate their mouths to the surface of the water. Though when handled, and even washed and put into fair water, they were lively enough, they appeared to be fond of rest, and to be best satisfied with quietude in their muddy holes.

They sometimes, though rarely, gulped water, and passed it through their spiracles, and thereby raised a cloud of mud around their legs and gills. But as there are no branchiæ on the cartilaginous arches, as in fish, it cannot be inferred that this is a function of respiration. All that could be effected by this operation, was to remove the stagnating mud and water from their gills, and to procure the contact of fresh portions of one or both.

From the constant exposure of the gills to the surrounding medium, and their frequent motions, there is reason to believe their breathing is principally performed by these external organs acting upon the air contained in water, after the manner of fish.

I could not discover any regular or steady respiration by the air-sacs, or lungs, if such they may be truly called. When left to themselves for twelve hours or more, a small collection of bubbles like froth or foam was formed over their heads on the surface of the water. Yet these were emitted so slowly that I have watched until I was weary without observing the least extrication of air. Yet, I have occasionally witnessed bubbles of air proceed from their mouths; and it was constantly observable that, besides the great hole containing their heads, there was a small one proceeding from the gills. This was often on one side only. And bubbles could now and then be seen to issue from the spiracles. But in every instance, the air, instead of issuing in large bubbles or in a steady stream, came forth in very slow and detached portions, bearing some resemblance to the tardy and scanty extrication of gas in Nooth's machine for impregnating water with carbonic acid, when the sulphuric acid and the chalk have nearly spent their force.

On the whole, the most correct judgment I have been enabled to form on the Siren lacertina when living in its native element of mud, is contained in the following sentences: viz.

1. That as the reptile lives in nasty and stinking mud, impregnated with the admixture of dead animal and vegetable matter, there may be greater need of a double and co-existing set of respiratory organs than in fish, or even in other reptiles.

2. That the branchiæ, or cervical appendages, are placed on the outside of the body, for the more convenient exposure to aerated water, (that is, water charged with the proportion of air naturally derived from the atmosphere) than could happen if the gills were situated on the branchial arches on the sides of the throat as in fish.

3. That respiration is accomplished in these creatures without the necessity of passing water through the branchial arches, as in fish.

4. That for its easier performance they elevate themselves in their holes, and approach the surface where their heads emerge from the surrounding mud into the water.

5. That even here and under such circumstances, though left perfectly to themselves, they rarely raise their mouths above the surface of the water; far less come forth as frogs do, into the atmosphere.

6. That the vesicles of air within the abdomen, though furnished with a larynx, trachea, and bronchia, hardly deserve the name of *lungs*, in the proper sense of the word.

7. That instead of being primary organs of respiration, they seem to be auxiliaries only; receiving from time to time, and that only at rare intervals, a supply of air, and expending it by minute portions in aid of the gills when oppressed by foul mud, or disoxygenated water.

8. That these air-holders are replenished when the constitutional want of the siren requires a fresh allowance, by inspiration from the atmosphere; and that as expiration goes on generally at a slow rate, and in an indeterminate or uncer-

tain time, there is no fixed period for their evacuation, nor for the removal of their contents.

9. That the bubbles or particles of air proceeding from these reservoirs when emitted from the glottis, usually pursue the channels of direction towards the lateral openings or spiracles, that after passing through and escaping toward the surface, the intervening gills may have the benefit of their reviving influence; though if a somewhat larger quantity should be discharged than ordinary, a portion of the air may escape by the mouth.

10. That notwithstanding the vascularity of these air sacs, or pulmonary cavities, it may be doubted whether any function of a truly respiratory kind is performed by them.

EXPLANATION OF THE PLATE

FIGURE 1.

A. The inside of the mouth, after the removal of the upper jaw.

B. The os hyoides.

C. The glottis or rima glottidis.

DD. The two grooves proceeding obliquely toward the spiracles.

E. The back-bone and spinal marrow, seen after the removal of the upper jaw.

FF. The branchiæ in a triple arrangement.

FIGURE 2.

The thorax and abdomen displayed, showing the heart, pulmonary artery, aorta, stomach, intestines, liver, and pulmonary air-holders ending in points beyond the vent.

FIGURE 3.

Shows the bifurcation of the trachea, and its connexion with the pulmonary sacs or air-holders.

A. The trachea.

BB. The air-sacs or gas-holders.

Fig. 1.

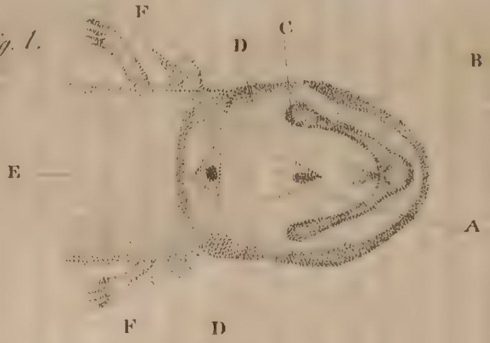


Fig. 3.

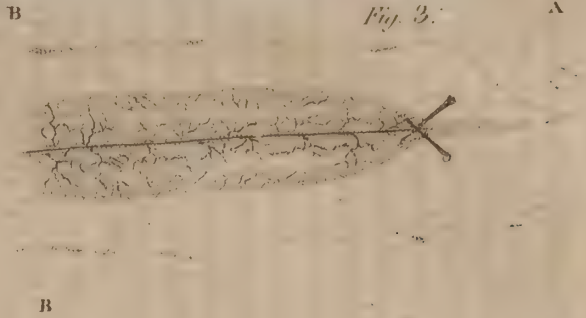
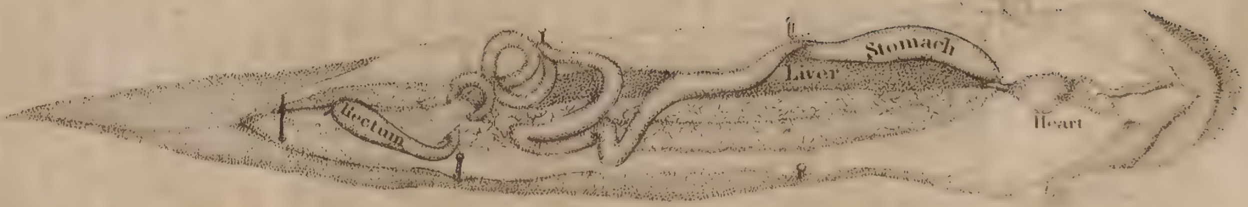


Fig. 2.



RT. VIII. AN *Account of the* SMALL-POX *which occurred in the City of New-York, in the Winter and Spring of* 1823–4. By JOHN BELL, M. D. one of the Physicians of the New-York Dispensary.

A BRIEF history of the epidemic which, during the last season, has prevailed throughout the city to a very considerable extent, may at some future period possess an interest of which at the present time it is in a great measure destitute. Attempts at original views or new and ingenious observations carry with them, in this case, an air of something more than mere uselessness, since no disease, perhaps, in the whole list of nosography, has been more frequently and closely observed, or more accurately and minutely described. Its different stages have been laid down with a vast affectation of precision, and the slightest variations in the appearance of the eruption have been loaded with names, which serve no other purpose than to show that the subject has been long and attentively studied. Admitting all this, it is still important that the periods of occurrence of this, as well as of all other epidemics should be accurately noted. The facts in their isolated state are curious and interesting; their accumulation, from the opportunity it affords to some " master spirit" to mould them into form, and draw from them sound and practical inferences, must always be desirable.

Much has been recently said and written on the subject of the varioloid disease. The result is, that the opinion of the medical public is fast settling down in the conviction of its being merely a modification of the small-pox in consequence of previous vaccination. A few however are still incredulous, and feel unwilling to give up their belief in that beautiful theory, once considered so firmly established, that the vaccine disease furnishes a perfect immunity against the small-pox. It is perfectly obvious, from facts which have been accumulating for the last half dozen years, that the belief in the preservative power of the kine-pock was either too hastily adopted, or that the disease itself, in its repeated transmissions through so many individuals in various states of health and disease for twenty-six years, has lost some of the virtue which it originally possessed. This last opinion is far from being wholly chimerical, though from the nature of the subject it cannot well be brought to the test of experiment, for we have every gradation of severity in the modified small-pox, from a close resemblance to the disease in its confluent form,* down to a mild disorder attended by few and scattered tubercular eruptions, so slight as not to prevent the individual from attending to his ordinary concerns.† Is it an unreasonable supposition, that the greater or less degree of influence, which the kine-pock has previously exerted upon the system, graduates, if the expression is admissible, the severity of the small-pox? It has been shown by experiment,‡ that re-vaccination, after the kine-pock has gone through its usual, regular course, will produce considerable irritation followed by the formation of a scab. A third and fourth vaccination is succeeded by less and less irritation. and by the formation of still smaller scabs, while the fifth repetition of the operation produces not the slightest effect. The conclusion seems fairly to follow, that in the first instance the system is not wholly under the influence of the vaccine disease; that its susceptibility lessens with every repetition of the operation, till at length, coming fully under its control, it is able completely to resist its subsequent introduction. Whether this lack of a complete subjection of the system to the vaccine influence in the first instance, arises from the constitution of the individual, the mode of performing the operation, or a deterioration of the virus, is immaterial to the present purpose, since either supposition gives countenance to the conjecture advanced above, that the power which the constitution possesses of resisting the attack of small-pox depends upon the degree of perfection with which the kine-pock has run its course.

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* See case IX. † Case VIII.

‡ See some experiments on the varioloid disease, &c. by Dr. Darrach, in the Philadelphia Journal of the Med. and Phys. Sciences.

It is worthy of remark that not only through the winter but through the whole year past, there has existed throughout the country a predisposition to eruptive diseases. The measles particularly have been very prevalent and uncommonly fatal. In Baltimore, from the 1st of January 1823 to the 1st of January 1824, there occurred one hundred and fifty-six deaths from this disease. In Philadelphia, during the same period, one hundred and seventy-five; and in this city one hundred and seventeen, while but one solitary instance of death from measles took place in New-York the year previous. Nor has this disease been confined to the large cities, but has spread throughout the country.

The small-pox has followed the same course. It has appeared, often simultaneously, in various parts of the country, in small as well as large towns, from Charleston (S. C.) to Canada. It seems difficult to account for these curious facts, except by a recurrence to the opinion held by many of the ancient physicians, and advocated by Sydenham, that there are " peculiar constitutions of the air," which dispose the body to receive certain diseases at certain periods. What this " peculiar constitution" is, it is impossible to conjecture; we know, however, that it possesses no power of affecting the instruments by which we judge of the condition of the atmosphere. Whether it depends upon the electrical or magnetical state of the atmosphere, the influence of the heavenly bodies, as some, and even modern writers have supposed, or upon certain changes and decompositions which take place in the bowels of the earth, as Sydenham and various writers of his day conjectured, must at present remain a matter of curious speculation only. At some future period it is to be hoped that facts and observations constantly accumulating will throw some light on this dark subject.

Before commencing the remarks and cases which follow, it may not be improper to mention that they were minuted down at the bed-side, principally of applicants to the city dispensary, in a district which comprises many individuals of the poorest and lowest class in the city.

The first deaths which occurred from this disease took place, according to the inspector's returns, in November, subsequent to the 20th of the month. They gradually increased till April, since when the number has been slowly diminishing, as will appear from the following statement.

Number of Deaths.

November (20th)	3	March	69
December	15	April	73
January	40	May	45
February	63	June (to the 12th)	14

It attacked principally the poorer class of citizens, and although not confined to any particular district, was more prevalent in that quarter of the city to the east of Broadway and above Duane-street.

The age which seemed most liable to its attack was the interval between ten and thirty, although many cases occurred previous to the former age. Of forty-three cases of the disease in its unmodified form, which came under my care, the medium age was a little more than eighteen. Of these, sixteen might be considered confluent cases, two of the variety called petechial, and the remainder of the distinct kind. The proportional number of confluent cases was here uncommonly large: whether this arose from accidental circumstances, or whether it was generally the case throughout the city, I am unable to say, but am disposed to think, from the opinions of several medical gentlemen, who have had opportunities of observing the disease extensively, that the latter supposition is probably the correct one.

The access of the disease varied much in severity, being strongly influenced by the age, habit, and previous health of the individual. The strong and robust above twenty-five seemed to suffer most severely. Of five patients above thirty-five, who came under my care, but two recovered; one of those with the loss of his eye-sight, and the other after a confinement to her bed of nearly thirty days. Children under the age of six or eight suffered very severely, being cut off, in several instances, during the febrile stage, and before the eruption made its appearance. (See Case I.) The same result, in one instance, took place in an adult, (Case II.) In these cases the weight of the disease seemed to fall upon the brain, as was indicated by the delirium often amounting to raving, the redness of the conjunctiva, intolerance of light, severe head-ache, quick and strong pulse, with great heat of the skin, particularly of the head and face.

The disease, at its commencement, presented few, if any variations from the usual course of symptoms. It ordinarily began with loss of appetite, and in some few instances nausea and vomiting. This last symptom will be more particularly noticed in speaking of the modified form of small-pox. Acute pain in the head and loins was always present, and from its severity seemed to absorb the patient's attention so far, that unless questioned, the other and less obtrusive symptoms, such as nausea, thirst, hot and dry skin, with frequent chills, &c. were rarely mentioned. The pulse was usually quick and hard, not unfrequently demanding the use of the lancet.

This state, with occasional exacerbations, in most cases continued about four days, when the appearance of the eruption moderated the symptoms, and gave partial relief. The severity of the febrile stage did not, as I had been led to expect from the books, form an accurate indication of the quantity of the eruption. In several instances where the fever was very severe, the eruptions were few, and the subsequent course of the disease light. In the most grave and confluent cases, however, the efflorescence which usually precedes the eruption invariably appeared early on the third day. In the distinct form, the pustules maturated about the eighth day, and began to dry two or three days later.

In the confluent form, where large watery vesicles arose between the eighth and eleventh days, the disease invariably proved fatal. The greater number of deaths took place on the thirteenth day; one instance, however, occurred on the nineteenth, and another as late as the twenty-first.

The swelling of the face, so far as my observation extends, did not furnish any indication from which the probable severity of the disease might be conjectured. In the two cases above referred to, where death took place early in the disease, no swelling took place. In those instances where death occurred late in the disease, the swelling usually subsided with rapidity; at the same time the pustules became flattened, watery vesicles sometimes formed, the patient became usually comatose, sometimes delirious, and gradually sunk in from one to four days.

In every instance where dark blue or purplish spots appeared on the summit of the pustules, the termination was fatal. But two cases of this kind, as was before mentioned, occurred. (Case III.)

Of the number of patients mentioned above, which I attended, nine died, making a proportion of a little more than one in five. This may perhaps be considered a pretty fair estimate of the mortality of the disease throughout the city. The treatment adopted in these cases was, with slight variations, the one usually pursued; that of purgatives, refrigerants, diaphoretics, and occasionally bleeding, where there was great delirium, or throbbing of the head accompanied with redness of the eyes, in the febrile stage; and tonics and stimulants in the later stages, especially where there was a sinking of the pulse and flattening away of the pustules.

CASE I.

Keziah Titus, a light coloured mulatto infant, aged seven weeks, was taken April 15th with restlessness, hot skin, and a disinclination to take milk. The 18th, an eruption of small pimples, about the size of a pin's head, appeared over her whole body and extremities. The next day they were found of the same size, but with a small dark purple apex to each of them. The child, at this time, seemed almost insensible, and died in the evening. The pimples were very small and not surrounded by any areola.

CASE II.

Samuel Drummond, aged 38, a large, strong, robust man, much addicted to the use of ardent spirits, was taken March 6th with violent head-ache, and pain in the back and limbs. His skin was hot and dry, and he had frequent chills. His pulse was quick and remarkably strong. An active cathartic of salts and antimony was ordered. On visiting him the next day, I learned that he had been very delirious through the night, had made such violent exertions, that his wife was unable to retain him in bed, and he had several times made his way into the street. His medicine had not operated. Another active cathartic was ordered, with directions to give him an enema, which last were not however complied with. The next day, he was found comatose, and could not be roused. He died on the morning of the 9th. Reddish spots of the rash kind had appeared during the night on his face and breast.

CASE III.

Margaret Kelly, about 12 years of age, was taken on the 7th March with the usual symptoms of small-pox, and three days after was covered by an eruption of the confluent kind on the face and breast. After the eruption came out she was much relieved, felt considerable appetite, and was desirous of sitting up. No vesicles began to form on the pustules, even where they were most distinct and prominent. On the 16th, here and there a pustule began to assume a purplish tint on its apex. The number of these was much increased the next day. The 18th, purple spots, not only on the pustules but in the intervals between them, where any intervals existed, made their appearance. They varied much in size, from a mere speck to nearly the size of a sixpence. During the night she bled plentifully from the nose and gums. The next day she became comatose and insensible, and died in the afternoon.

CASE IV.

Diana Morrison, a mulatto, aged 18, was attacked on the morning of the 4th March with severe pain in the head and back, chills, &c. together with nausea at stomach and violent vomiting. The eruption approaching the confluent form about the face, appeared on the evening of the 5th. The usual depleting remedies were advised. On the 7th, her mother, agreeably to the advice of some friends, "gave her a sweat," that is, forced down large quantities of cat-mint tea, while the patient was covered with an immense load of bed-clothes. After this display of prudence and maternal care, she retired to bed; the daughter, taking advantage of her absence, threw off the bed-clothes, got up, remained some time standing and walking about, and finally drank a large quantity of cold water. The next day I found her delirious, the pustules flattened and scarcely visible, and the pulse sinking. Tonics and stimulants were prescribed, together with blisters to the legs. The 9th, her pustules were more prominent, and her pulse stronger and not so frequent. The next day she continued nearly in the same state, with occasional delirium. On the 11th she became comatose and insensible, and died on the 12th.

By far the greater number of cases of small-pox, which occurred in the city, took place subsequent to vaccination. The possibility of such an occurrence was for a long time doubted, and there are even now individuals, who, notwithstanding the mass of evidence upon the subject collected in Europe as well as in our own country, are still skeptical. It has recently been pronounced by one of the most eminent and experienced vaccinators in America,* "as fantastical as it is unscientific to talk about the 'modifying powers' of vaccination, viz. its half-way preservative powers." "To any one who has imbibed such an opinion, I would only say that I have within twenty-two years past, vaccinated 80,000 persons, and that many hundreds of my vaccine patients have been tested with fresh small-pox matter and infection; not one of the whole number have I ever known to take that distemper.

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* Extract of a letter from Dr. Fansher to Dr. Waterhouse. Boston Med. Intelligencer, June 1824.

But if the numerous public experiments of small-pox virus on vaccine patients in America is deemed insufficient, the testimony of the Royal Jennerian Society of London should for ever settle the question." "The medical council of the London Vaccine Institution admits not of a controlling or modifying power of vaccination. It is as sovereign a prophylactic, as complete a preventive, as the small-pox itself against its own future occurrence." The supporters of this opinion believe in the existence of "a pustular disease, that resembles small-pox, distinct from it and chicken-pox." The most conclusive mode of refuting these opinions is by a recurrence to facts. The following case, or rather experiment, which fell under my observation, is directly in point, and goes, as far as one case can, to establish the identity of small-pox and the varioloid disease.

A quantity of lymph was taken on the point of a lancet from a patient* suffering under the varioloid disease, on the third day of the eruption, and fifth of the disease, and inserted in the arm of a healthy child of seven years of age, who had neither been vaccinated nor inoculated previously. Three days after, the point where it was inserted became red and inflamed; a small pustule followed, which contained a fluid on the eighth day. At this time the child sickened and was confined to its bed. The next day about thirty pustules appeared on its body and extremities. But five of these pustules maturated. The rest gradually disappeared, and were entirely gone by the time the others were scabbed over. This child was afterwards inoculated with the small-pox without taking the disease.

In another child, a few years older, likewise unprotected either by vaccination or inoculation, a quantity of lymph from a varioloid patient was inserted in the arm, and a quantity of the vaccine virus, at the same time, in the same arm, about two inches below the first puncture. Two pustules formed, which advanced with about equal rapidity; the varioloid one being a little the largest, and encircled with the most extensive areola. On the eighth day they both contained lymph, which became pus the next day. The child at this time had considerable fever and kept her bed. The next day about a dozen tubercular eruptions appeared on her back and legs, none of which ever suppurated. Three days after they had almost wholly disappeared. This patient was afterwards vaccinated, with no other effect than the production of a slight irritation, which lasted two or three days.

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* A lad of fifteen, who was taken with the usual symptoms of varioloid, the eruption appearing on the evening of the third day, and beginning to dry on the seventh, when the patient returned to his usual employment. He was vaccinated when a child, and had a well-formed cellulated cicatrix on his arm of the size of a sixpence.

This is precisely the course which the small-pox pursues, when introduced into the system at the same time with the vaccine virus, as will be readily seen by a reference to the numerous cases of the kind on record. The similarity of the attack, and the resemblance of the eruption in its early stages, are alone nearly sufficient to identify the two diseases.

It is impossible to make an accurate estimate of the proportion of cases, which appeared after and before vaccination, but I am disposed to think, from the opinions of several physicians who had extensive practice in the disease, joined to my own observation, that the number was nearly as three to one.

In probably more than three-fourths of the cases of modified small-pox, the disease appeared between the ages of ten and twenty. The youngest case which I saw of it was eighteen months, and the eldest twenty-eight years; between these periods the interval between fourteen and eighteen seemed most liable to its attack. Its severity bore no uniform reference to the age of the patient. Its access was so similar to small-pox in its natural form, that the description of the one will answer for the other, with the slight variations mentioned below. The same pain in the head and back, and the same state of the skin and pulse were always present, but in a more variable degree. In some instances it assumed all the severity of the worst form of coherent small-pox; in others it displayed so great a degree of mildness as hardly to compel the patient to confine himself to the house; in all, however, the appearance of the eruption gave great relief, and the commencement of convalescence was usually dated from this epoch. At the access of the disease, nausea and vomiting, sometimes violent, seemed a more prominent symptom than in the natural small-pox. The disease likewise appeared to affect the lungs more in the modified than the pure form of the disease. Fullness and oppression of the chest, sometimes amounting to acute pain and attended by cough, were not uncommon symptoms, and frequently demanded the use of the lancet. Indeed, so strongly were these symptoms marked in one of the earliest cases which I saw, that I had no hesitation in pronouncing the disease a commencing pneumonia.

In most cases, the greater proportion of the pustules were of the tubercular kind, remaining prominent three or four days, and then gradually disappearing. These, however, were often mixed with scattered pustules which became vesicular, maturated, and formed scabs, all within the space of five or six days. In the more severe cases, all the pustules went through this course, and in one instance, where the disease was peculiarly grave, left depressions in the skin, smaller and more superficial than those usually left by the small-pox, but still indelible. (Case IX.)

It has been said that the peculiar odour of the small-pox does not attend the modified form of the disease. Where the number of suppurating pustules is small, or where none reach this state, it is difficult to perceive any thing of this smell; but where the eruption is plentiful, and the pustules are well filled, this peculiar odour is as distinctly observable as in the ordinary cases of the original disease.

The duration of the disease more frequently fell short of than exceeded nine days; four or five of which were taken up by the febrile stage, and the remainder by the eruptive. No instance of its having proved fatal has come within my knowledge.

In the following cases, some of the mildest as well as some of the severest have been selected, together with some instances of irregularity in the course and appearance of the affection.

CASE VII.

Lewis Gasherie, a strong healthy young man, of about 19 years of age, who had been vaccinated when a child, was taken March 2nd, with a violent pain in the head and back, a sense of fullness and oppression in the chest, a slight dry cough, and occasional chills. His friends gave him a dose of salts, followed by warm herb tea. The salts operated freely on his bowels, and the tea produced an abundant perspiration.

I saw him for the first time on the 5th, found his skin moist, pulse 100 and soft, and his tongue furred. The pain in the head and back still continued, although much diminished. The oppression and pain in the chest remained the same. Gave him a gentle cathartic, small doses of the pulvis antimonialis, and applied a large blister to his chest.

March 6th. Cathartic operated well; his skin is soft and moist, pulse 86, soft and regular. A scattering eruption appeared yesterday afternoon over the whole body, amounting perhaps to two hundred pustules. Blister drew well, and has given partial relief to the lungs.

From this time he rapidly improved. But three or four of the pustules maturated; the rest gradually disappeared. On the 10th he was out, attending to his business.

In the plate, figs. 10, 11, and 12, show the appearance of the eruption on the second, third, and fourth days of the disease, and may serve as a pretty accurate representation of its usual course.

CASE VIII.

G. S., a young gentleman about 22 years of age, was troubled with loss of appetite and a dull pain in the head and back. This continued for three days, leaving him able to attend to his business the greater part of the time. On the fourth day these symptoms increased somewhat in severity, compelling him to keep his room: a laxative dose was prescribed for him, which operated well. In the evening about half a dozen papular eruptions made their appearance on his face, and an equal number on his breast. The next day he felt quite well; his appetite was nearly restored, and he returned to his business. None of the pustules ever maturated, and at the end of a week every trace of them had disappeared.

CASE IX.

J. B., aged 22, a young gentleman of a sanguine temperament and florid complexion, after feeling a little unwell for a day or two, was attacked on the 5th of April by head-ache and a severe pain in the back, was soon after sick at the stomach, and vomited slightly several times.

I saw him on the sixth: found his face flushed, his eyes red, tongue furred, skin dry and hot, pulse 120 and full. The pain in the small of the back was very severe, and that in the head very considerable. Bled him twenty ounces, and gave him a cathartic followed by small doses of the pulvis antimonialis. At night, found the pain and fullness in the head had disappeared, and that in the back much lessened; pulse 100, and skin slightly moist. His cathartic had operated well. but the pain in the loins, though diminished, still continued.

April 7. His face is covered with a great number of minute red pimples, which are so numerous as to give the countenance a deep red colour at a little distance; when closely examined, however, they may be distinctly seen. He has still a slight head-ache; the conjunctiva of the eyes is injected with blood, and the pain in the back has become quite severe. His nose bled profusely twice during the night, pulse 110. Bled him twelve ounces, and gave him a cathartic of rhei and calomel.

8th. Feels better, head and back easier, eruption is coming out well, and is very plentiful. Pulse 100, and rather full: gave him another cathartic.

9th. The eruption on the face resembles in every respect the confluent small-pox at the 6th or 7th day.

10th. His face, particularly his eyelids, lips, and nose, is much swollen; complains of a hot prickly sensation in his skin; the pustules are numerous on his body and particularly his lower extremities, and in some spots may be considered confluent. A few of them about his lips and chin are beginning to assume a whitish appearance at the summit: pulse 80 and soft, throat very sore, tongue covered with a thick white fur. The peculiar smell of small-pox is distinctly perceivable. The room where he is confined is large and well ventilated.

11th. Nearly one half of the pustules are filling with pus. His face is much swollen, and his eyes nearly closed: pulse 75 and soft.

From this period he recovered rapidly. At this time (June 1st) his face is considerably marked, and will probably continue so. He was vaccinated when a child, and has a large irregular cellulated cicatrix on the arm.

CASE X.

John Smith, aged 7 years, was taken the 15th of March with pain in the head, sickness at the stomach and vomiting; his tongue was coated, and his pulse full and quick.

On the 17th, a bright coloured rash (see plate, fig. 5.) made its appearance, covering the nates and extending down his legs to his ankles. On his body, arms, and face, a scatterred eruption of pustules came out; but not a single one on those parts covered with the rash. In about three days the rash disappeared, and the pustules assumed the dirty yellow, branny surface, which they usually put on. This child's mother says he has had the measles and the chicken-pox. He was likewise vaccinated when an infant, and has a well formed scar.

A person died of the small-pox in the house where this patient lived, the day before he was taken, and another lay sick of the disease at the same time.

CASE XI.

Christina Platt, aged 5 years, was taken the 12th of April with repeated chills, succeeded by a hot dry skin, flushed face, furred tongue, pains in the head and legs, and heavy watery eyes, together with restlessness, starting, and screaming out in her sleep. An eruption of red blotches of the size of a sixpence, with a single little red pimple in the centre, having precisely the appearance of flea-bites, came out on the 16th. They altered but little in appearance the next three days. The child had a tolerably good appetite, and played about as usual. By the 22nd they had wholly disappeared.

There were several circumstances in the symptoms and course of this disease which gave it considerable resemblance to the measles: her mother however assured me that she had suffered severely from this disease the summer before, at a time when it was very prevalent. She had been vaccinated two years before, and had two well-formed cicatrices.

CASE XII.

William Deboule, aged 20 years, was attacked the 16th March with slight pain in the head and back, and a very severe one in the left side, increased by a deep inspiration. His tongue was slightly coated, and his pulse full and quick, (96.) He was bled twelve ounces, and took an ounce of sulphate of soda.

18th. The pain in the side has disappeared, and his head is relieved. A few scattering eruptions appeared this morning, most numerous on the face and breast.

19th. The pimples have increased a little in size. He says he feels perfectly well, and is desirous of going out.

20th. The greater part of the pustules are covered with a yellowish, branny scurf; the remainder are disappearing. One or two on his face contain pus, and are beginning to dry. Consider him cured.

On the 24th I was again requested to visit him, and found him covered with pustules which had appeared the day before. They went on to suppurate, and began to dry on the 30th, after which he rapidly recovered.

In this case there were evidently two distinct crops of pustules, the second appearing just as the first was dying away. A slight degree of fever preceded the second eruption, which left him as soon as it made its appearance. This second crop assumed a resemblance to the small-pox in a remarkable degree, but commenced scabbing several days sooner. Although the skin remained discoloured for some time, no permanent marks were left by the pustules. Figures 6, 7, 8, and 9, in the plate, represent the appearance of the pustules on the 2nd, 3rd, 5th, and 6th days, together with the marks of the former eruption.

The following case of secondary small-pox is added in consequence of the rarity of its occurrence, and from its strong resemblance to the same disease modified by vaccination.

CASE XIII.

Eliza Dusenberry, aged 18, was inoculated with the small-pox fifteen years since, by a respectable practitioner in the city. From her mother's account, about thirty or forty pustules followed the introduction of the disease. No marks are now visible, except two small cicatrices on the left arm. She was attacked March 2nd with a severe pain in the head, limbs, and loins, accompanied by occasional chills. She had considerable nausea, and made several slight attempts to vomit. Her cheeks were flushed, her skin dry, her tongue slightly coated, and her pulse 92 and rather hard. Appropriate remedies were prescribed.

March 3d. Her medicine has operated favourably. The pain in the head and back has disappeared, her pulse is less frequent, her skin soft and moist and her tongue more coated. This afternoon a few red pimples appeared about her mouth and on her forehead.

4th. The number of pimples has increased, and they have become larger and of a brighter colour. She has still a dull aching pain in the head.

6th. About one half the pustules have acquired a small, white, vesicular summit, about the size of a pin's head, which when ruptured is found to contain a minute quantity of transparent lymph.

7th. Those of the pustules which were vesicular yesterday, are to day covered by a thin, dirty, orange-coloured scurf, hardly meriting the name of scab, which upon remov[illegible] not

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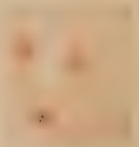

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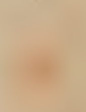

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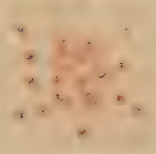

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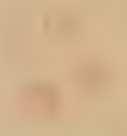

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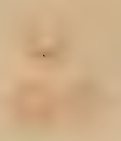


found to contain any purulent matter. The other pustules have become smaller and paler, but have still a narrow areola of a reddish colour surrounding them.

Ten days after the first appearance of the eruption, it had so far disappeared as not to be noticed without close examination, when a slight discolouration might be perceived.

This is the only case of a second occurrence of small-pox in the same individual, which fell under my observation. Its resemblance to the same disease after vaccination is very striking, and will appear more obvious by a reference to the accompanying plate, where figures 1, 2, 3, and 4, represent the 1st, 2nd, 3rd, and 4th days of the eruption.

It is important that we should be able to form a just estimate of the value of vaccination. From the cases just detailed, and from numerous others, which came under my care, the following conclusions seem to me the most important, as well as the best founded. Should they be found to correspond with the opinions of others, their confirmation may possess some weight; should they differ, the discrepancy may perhaps be owing, on my part, to a too limited number of cases, or to a want of accurate observation.

1st. Vaccination acts as a complete preservative to a very great proportion of those exposed to the contagion of the small-pox.

2nd. It slightly modifies the access of small-pox, rendering the attack somewhat milder, although the stomach and respiratory organs are more often affected than in its ordinary course.

3d. It possesses a controlling power over the progress of inflammation in the eruption, shortens its course, in the majority of cases prevents it going on to maturation, and in almost every instance obviates the occurrence of secondary fever.

4th. It takes away *nearly* all danger of a fatal termination.

With these powers, vaccination is invaluable, and should be warmly encouraged; while an increased attention should be paid to the mode of communicating the disease, as well as to its after course; and if the opinion advanced a few pages back be correct, the operation should be repeated till the system has been brought fully under the influence of the disease.

ART. IX. NOTE *on the* VARIOLOID DISEASE *as it appeared in the winter of* 1823–4 *in the City of New-York:* addressed to Dr. J. W. FRANCIS, by W. J. MACNEVEN, M. D. Professor of Chemistry, &c.

DEAR SIR,

THE most important fact concerning the nature of varioloid that comes within my own knowledge, is, that I have propagated from it a genuine small-pox.

During the last winter, Mr. L., a pupil of mine, caught the disease at a source that affected a great many of the students of our College. It began with considerable violence; strong chill, weariness and faintness, redness of the eyes, severe pain in the head, quick, strong pulse, with every mark of considerable febrile excitement. As he had been vaccined in his infancy by the late Dr. Richard S. Kissam, so deservedly eminent in his time, I was doubtful whether I should consider him ill of the varioloid, until at the end of the third day a number of bright red spots made their appearance on his forehead. In three days more they were all over his body, distinct and numerous. About the ninth day they had filled, and had shrivelled and desquamated by the thirteenth. Three more in the family had the disease and two escaped it, all of whom had been vaccined by Dr. Kissam.

It was the sixth day when I took lymph from one of the pustules on Mr. L., and inoculated with it a healthy boy about five years old, who had never been vaccined or inoculated before. He sickened on the seventh day following, had much fever, succeeded by an abundant, distinct eruption, and a regular benign small-pox, that passed through all the usual stages.

The mother of Mr. L. had been inoculated with small-pox in her childhood, forty years before this time. She had then the inoculated small-pox favourably but fully, as I learned from her mother still living. Here then, in the same family, four who had been vaccined by a distinguished and able practitioner, and one who had been inoculated with small-pox, which she took, were nevertheless infected by the prevailing varioloid. But as neither vaccination nor inoculation altogether kept off this variety of small-pox, each of them was, however, equally successful in lessening its virulence and danger. When I consider those cases and many others I have seen of the same nature, and compare them with the effect of the epidemic on constitutions unprotected by previous vaccination, I have the strongest conviction of the preservative effects of the latter.

Several cases of natural small-pox came under my observation during the season, which terminated fatally, that did not begin with more fever, nor proceed for a few days with more violence than some cases of varioloid, while I have seen no death from the latter, nor do I know of any.

Though I am fully satisfied that the disease in question was a real small-pox, and where it attacked unprotected constitutions, a very malignant one, I see no inconvenience, but rather an advantage in assigning to it the name of *varioloid* in all instances of previous vaccination. It is then greatly mitigated. It may be deemed a variety constituting *mild variola*, scarcely, if at all, endangering life or productive of deformity.

Yours, &c. W. J. M.

ART. X. A CASE *of* HYDROCEPHALUS. By J. SMYTH ROGERS, M. D. of New-York.

THE comparative infrequency of recovery from hydrocephalus, where that disease has fairly developed itself, renders interesting every instance of its successful treatment: the subjoined case has an additional claim upon our attention, from the evidence it affords of the power of an article of the materia medica, which, although known to some of the older practitioners, had long been forgotten, and has only been very recently revived and introduced into our country; I mean the expressed oil of the "Croton Tiglium," or, as it is commonly called, the "Oil of Croton." I have not been very minute in the detail of my little patient's symptoms; it may therefore be proper to observe, that I have never seen a more distinctly marked instance of acute hydrocephalus than this: the course of the disease was precisely that which is so accurately and so ably delineated by Dr. Cheyne, in his excellent work on the "Hydrocephalus Acutus," and it was evidently the consequence of an injury to the head from a fall.

On the 10th of April I was requested to see A. M. S. aged about 4½ years. I found her in bed; her face was flushed, her skin hot, her pulse rapid, her breathing corresponding with the state of the pulse, and frequently interrupted by deep sighs: she expressed great disinclination to rise, and complained of pain when her mother attempted to lift her from her pillow; there appeared to be a general sense of soreness about the body, but she pointed to the head as the part which suffered most severely: the pupils were very much contracted, although not exposed to a strong light, and she seemed desirous to lie motionless except when pain in the head caused her to cry out, when her cries were accompanied by a tossing of the body. Her mother stated, that about a fortnight previous to my visit she had fallen down the stairs at school; she was stunned for a short time, but as she soon ceased to complain, she was supposed to have recovered from the accident.

and nothing further was thought of the matter: in the course of a few days however, her mother observed that she appeared less lively than usual; she would frequently leave her play for a moment and lay her head on a chair, as though she suffered pain; towards the evening she became feverish, and through the night rather restless, occasionally sighing, gritting her teeth, and groaning in her sleep: in the course of a day or two more, these symptoms appeared to be rather increased, and she occasionally started suddenly and exclaimed, "O my head." As she appeared to be tolerably well in the day, her mother attributed her complaints to worms, and supposing that they would yield to some simple domestic remedy, she neglected to ask advice. On the 9th of April the child was seized with vomiting, and the stomach soon became so irritable as to reject food almost as soon as it was swallowed: on the evening of this day, the exacerbation of fever was much more severe than it had previously been; she became very restless, frequently starting and making loud complaints of her head. The next morning I was sent for, and found her lying as I have described; her bowels, which had been inactive for some days, had not at all been moved for 48 hours: the application of my hand over the bowels did not appear to cause much uneasiness, but when I placed it over the region of the liver, she uttered loud cries. Under these circumstances I directed that the room should be darkened, and every person not necessary as an attendant upon the child, excluded, that every cause of excitement might as far as possible be avoided: an active cathartic was administered, and an enema prescribed; a large blister was applied between the shoulders, and immersion in the tepid bath was ordered, should the other remedies fail to moderate the symptoms; the diet to be bread and water, in the smallest quantities. An attempt to bleed her, resulted in the abstraction of only a small quantity of blood, not sufficient indeed to have any influence on the disease.

April 13*th.* The antiphlogistic remedies hitherto employed have had little or no effect upon the disorder: she still incessantly complains of her head, and appears much distressed at any attempts to raise her from the bed; indeed the elevation of her head from the pillow is attended by a great increase of pain, and in almost every instance followed by vomiting; her fever is less violent in the early part of the day, but towards evening the exacerbations become very severe; last night she was delirious. She has had two small evacuations since Saturday, by the conjoined aid of cathartics and enemata; the stools have the peculiar dark green, glairy, gelatinous appearance which is considered by Cheyne as characteristic of the first stage of dropsy of the brain, and to which he applies the term "Hydrocephalic." Veins were opened in each arm in succession, but only three or four ounces of blood were obtained: the following purgative was then directed,

Pulv. Rhei. gr. viij.
Calomel gr. vj. M.

to be repeated every four hours until free evacuations should be produced; blisters to be applied to the ankles, and immersion in the tepid bath repeated in the evening.

April 14*th.* The symptoms continue unabated. She was again delirious through the night; the warm bath seemed to produce a little moisture on the skin, but it soon disappeared. A scanty evacuation took place, having the same appearance as before; the stomach continues so irritable, that the medicines are retained with great difficulty; pain in the head not at all diminished; the tenderness about the region of the liver still so great that she screams out if the hand be applied to the part; she desires to remain quiet, but answers readily and rationally any questions put to her.

Cupping glasses were applied to the temples, and from ℥vj. to ℥viij. of blood abstracted; a blister was placed over the right hypocondrium, and the following cathartic directed;

Pulv. Rhei. gr. x.
Calomel gr. viij. M.

to be repeated every four hours, aided by an injection of pulv. aloes ʒj. diffused in warm water, and employed about an hour after the powder. The use of the tepid bath to be continued.

April 15*th*. The child has passed a still more distressing night than before; a great increase of the fever took place about nine o'clock last evening; she was at times delirious; occasionally she dozed, but almost immediately on closing her eyes she would [illegible] and cry, "Oh my head." The blister had vesicated; the powders and injections were repeated according to directions, and had the effect of increasing somewhat the quantity evacuated, but its character remained as before. She was placed in the tepid bath in the evening, and kept in it until she fainted; a diaphoresis succeeded, but it was of very short continuance, soon giving way to febrile excitement. The jugular veins were now opened, and a small quantity of blood obtained: her extreme restlessness, however, as before, prevented the abstraction of as much as was desired, and little advantage was gained by the operation. A blister was again applied to the back of the neck, and the following prescription made:

℞. Rhei gr. xii.
Calomel gr. x. M.

Repeat every third hour, and aid the alternate doses by the following enema:

Spts. Turpentine ℥i.
Thin Starch ℥iv. M.

Warm bath to be repeated as before.

April 16*th*. The remedies were given as directed: the blister vesicated, and two evacuations were produced by the remedies more copious than the preceding, but of the same dark green, glossy aspect as in the former instances; the child passed a miserable night, the unfavourable appearances were not at all changed. This morning her skin was not quite so hot as yesterday; she was lying with her eyes half closed, taking no notice of what was passing around her, but very much distressed, when in the least disturbed; her breathing was frequently interrupted by sighs, and her mother stated that she was constantly complaining of her head. The general appearance of the patient, the state of the pulse, and her other symptoms were so unfavourable, that the case was considered almost desperate. I determined, however, to try the effect of oil of croton, with a hope that it might produce evacuations, and at the same time act as a counter-irritant by its powerful effect upon the bowels : the following prescription was therefore made :

Ol. Crotonis gr. v.
Medullæ Panis q. s. M. Ft. pil. x.

Of these, one is to be given every two hours, until the bowels are freely evacuated ; the warm bath to be repeated as before.

April 17*th.* The pills have been taken regularly according to directions ; the child has had two motions, more copious than any since the attack, but still having the hydrocephalic character ; the warm bath was used during the evening, and she passed the night rather more comfortably than she had done for several days.

Ol. Crotonis gr. x.
Medullæ Panis q. s. M. Ft. pil. x.

One to be taken every two hours.

April 18*th.* The pills have again caused two evacuations, which have been larger than those of the day before, but their appearance is unchanged ; the irritability of the child's stomach renders it difficult for her to retain the pills, although they are very small ; once or twice they were rejected, but the mother repeated them until they remained by her. She passed a restless night, but appears better this morning than she has been for a week. Let her take two pills every second hour as before.

April 19*th.* Two very copious stools were produced yesterday ; the first did not differ in appearance from those of the day before ; the second, however, was much more natural in every respect ; the child passed a comfortable night, and is considerably better this morning ; she still complains of her head on the slighest effort ; her general aspect however is much more favourable ; her pulse is nearer the natural standard than it has been for some time, her stomach too is more retentive. Continue the pills every fourth hour.

April 20*th.* The evacuations are now quite natural in appearance, and the patient decidedly better in every respect. Let her take but *one* pill every four hours, and when the bowels have been freely moved twice or thrice, omit the medicine.

From this time, my little patient became convalescent: as her symptoms assumed a more favourable character, the "oil of croton" was gradually discontinued; the bowels in the course of two days became sensible to the mildest aperients; a small dose of magnesia, repeated twice in 24 hours, operated moderately, and prevented any *return* of the excitement, which had entirely disappeared; she was however so much weakened, that she was unable to stand alone for some time; a moderately tonic course was very cautiously resorted to, with great advantage, and her health gradually returned. The still remaining tendency of the head to disorder, was evinced in an attack of intermittent fever, which occurred a short time after she had returned to her usual amusements; the paroxysms were soon arrested by the sulphate of quinine, but every night during their continuance she suffered from acute pain in the head. She is now perfectly well, and has the appearance of an uncommonly healthful child.

After A. M's. recovery from the attack of hydrocephalus her mother inadvertently left a paper containing *seven* pills, each having a drop of ol. crotonis, within the reach of a younger sister, aged about three years: the child swallowed the whole of them, before the mother could interfere; in *ten minutes* most violent purging took place, it continued at intervals for some hours, until the child was so completely prostrated that she could not raise her hand to her head: from this exhaustion she recovered without any ill consequences, by the aid of mucilaginous and nutritious diet.

ART. XI. ON *a* NEW FORM *of the* GALVANIC APPARATUS: By ROBERT GREENHOW, M. D. of New-York.

EVERY one who has been in the habit of making galvanic experiments must be aware of the numerous inconveniences which attend every form of the apparatus hitherto in use. If it be arranged according to Cruikshanks' plan, it is impossible to keep the cells tight, and the action begins to decline before they are filled. In the other way, if the troughs are made of wood with glass partitions the same defect occurs; if of porcelain, they are very expensive and brittle. In Dr. Hare's deflagrator, intense heat and light are the only effects produced.

After some consideration, I have at last fixed upon a plan,, which, in my opinion, completely obviates these difficulties.

In it the copper is doubled around on Dr. Wollaston's plan and soldered up at the sides, so as to form a small vase, about half an inch wide, in the middle of which the zinc is placed, secured from contact by pieces of varnished wood. A number of pairs thus arranged are suspended from a common support of wood, the zinc in one cell communicating, in the usual manner, with the copper in the next, by a metallic arc. When they are used they are simply to be immersed in any vessel (a common wooden trough, lined with cement, without partitions,) containing the bath, and lifted up again, when it is evident they will be in action, and more completely insulated than they can ever be by any other means. We have only to pour the liquor out when we wish to suspend the operation. It combines every advantage: it is cheap, durable, and not liable to be put out of order: it is easily cleaned and most easily used.

Fig. 1. represents one of twenty pair of plates which I have constructed, which will be better understood by first examining fig. 2. (the letters of reference are the same in both,) which represents an end view of the plates.

Dr. Greenhow's Galvanick Apparatus

Fig. 1.

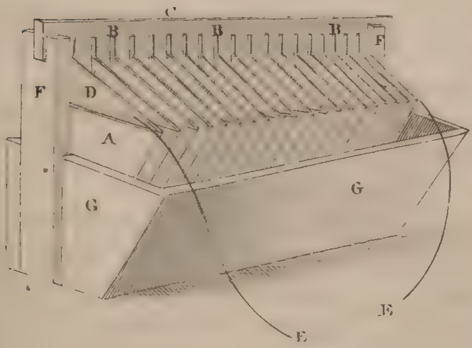
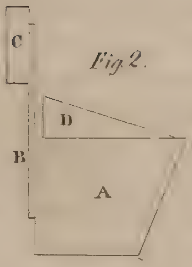


Fig. 2.



A is the cell of copper, five inches and a half wide at the top, four at the bottom, four and a half high, and half an inch wide; to one end is soldered the strong iron wire B, by which it is suspended from the wooden bar, the end of which is represented by C. The wire is flattened at the top and has two holes bored in it to admit screws.

Fig. 1. represents the whole apparatus in action.

The cells of copper A, with their respective zinc plates D, are attached to the bar C, by the wires B. G is a wooden box eight inches wide at top, six at bottom, and six deep, at either end of which are two wooden supports F, with each a notch at the top to admit the ends of the bar. When we wish to suspend the action, we have only to lift the bar out of the notches, and pour the liquor back into the trough.

It may be used as a deflagrator by suffering the plates to remain immersed in the fluid, and its burning powers are then increased. I have put it in action several times in the presence of Professors Macneven, Renwick, and several other scientific gentlemen, all of whom concur in their approbation of it. When charged with only a weak bath of muriatic acid, it decomposes water with rapidity, and burns charcoal in a most brilliant manner. Since I have made this I have devised a plan for rendering any number of plates easily manageable.

ART. XII. ACCOUNT *of a Series of* GALVANIC EXPERIMENTS *on the dead body of* JOHN JOHNSON, *murderer*. By F. G. KING, M. D. of New-York.

THE singular accident which occurred to Galvani, in his experiments on frogs, directed the attention of physiologists to the subject of animal electricity, which has at different intervals since that period been made the subject of either unbounded credulity or unmerited scepticism. The brilliant experiments and singular results of Valli, Aldini, Fowler, Volta, and others, gave character to it for a time, but it soon fell into disrepute, and became like animal magnetism the laughing-stock of the profession.

Thus it continued until within a very recent period, when the attention of naturalists having been strongly called to a peculiar organization in certain animals, as the torpedo, silurus electricus, &c. very analogous to the voltaic pile, and productive of similar effects, animal electricity again attracted notice, and was made the object of direct experiment on man, for the purpose of ascertaining how far it might be useful as a remedial or curative agent in the hands of medical men.

Professor Sœmmering and Baron Larrey, both engaged actively in the inquiry; the latter of whom furnished a memoir to the Philomatic Society, in which he proposed galvanism as a remedy in paralysis; though a few years after, in his Military Surgery, he states that the unimportant advantages since derived from it have led him to renounce his proposition.

Humboldt instituted numerous peculiar experiments, many of them tested on himself, for the purpose of proving the similarity between galvanic and vital action. The French Institute in 1798 appointed a committee of their scientific men to examine the question, and their report is a most elaborate record of the history and controversies on this subject, elucidated by experiments both novel and interesting.

Curious details of similar experiments are also to be met with in Dr. Sue's History of Galvanism; whilst Wilkinson, another of its historians, goes so far as to maintain that there is a similarity in structure between the cellular arrangement of the human lungs and the organization of the torpedo; and consequently, that respiration is an important galvanic operation: from which deduction he is of course led to apply galvanism in all cases of suspended animation, whether by drowning or hanging: its effects being illustrated by the case of Forster, who between five and six hours after execution was submitted to the action of galvanism, which produced such results as led many practitioners present to believe that even at that late period a recovery might by perseverance have ensued.

Subsequent to this, the singular experiments of Wilson Philip have appeared; as also the account, by Dr. Ure, of the phenomena developed on the galvanic excitation of Clydesdale's body. The singularity of this case having excited the curiosity of the profession on this side the Atlantic, they hastened to embrace the opportunity offered by the execution of the murderer Johnson on the 2nd of April, 1824, to verify the exactness of Dr. Ure's statement. Accordingly the necessary arrangements having been made, the afternoon of April 2nd was employed in developing these peculiar phenomena. * The anatomical part was executed by Drs. Mott and Stevens, with their accustomed precision and skill: the batteries consisting of 328 pairs of four inch plates, prepared under the direction of that able chemist, Prof. Macneven, were applied by Messrs. Griscom and Harris, in the presence of the Trustees of the College of Physicians and Surgeons, and a number of other gentlemen.

A few moments before the body was brought into the College Hall, the batteries were charged with diluted nitro-sulphuric acid, and the poles were connected to leaden wires, armed at their extremities with platina. The body was that of a well-built athletic man, which after being suspended about fifty minutes, and undergoing some slight delays, was brought to the room in one hour and a half from the moment of execution.

The limbs were flexible, and a little cooler than the trunk, which had preserved its natural temperature. It was stripped and immediately placed upon the table, when the following experiments were instituted.

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* Drs. Mott, Stevens, and Macneven, were the Committee appointed by the Trustees of the College of Physicians and Surgeons, to superintend the galvanic experiments in this case. *Ed.*

Exp. 1. An incision was made under the tendo achillis of each side, which being armed with tinfoil, were connected together by means of a copper wire having communication with the negative pole of the battery, whilst the positive pole attached to a brass ball, was introduced into the mouth, previously moistened with a saturated solution of sal ammoniac. The whole body was immediately thrown into convulsive agitation, his limbs lashing the table at every successive shock, and his jaws closing spasmodically, champed along the wire as a restless steed upon his bit. Satisfied by this of the energy of the agent, it was deemed proper immediately to make attempts toward the restoration of respiration, accordingly,

Exp. 2. The phrenic nerve was laid bare by an incision on the outside of the sterno-cleido-mastoidœus muscle, midway between the angle of the jaw and clavicle, and a blunt probe passed beneath it whilst another incision was made under the cartilage of the seventh rib of the same side, in order that the animal arc might be completed by a communication of the negative pole with the great head of the diaphragm, the positive wire being applied to the phrenic nerve. The chest immediately was thrown into action by the contractions of the diaphragm; but it was not sufficiently marked to warrant the assertion that it resembled full respiration, which was perhaps attributable to this circumstance, that the cavity of the thorax had been opened into, by which the action of the diaphragm must necessarily have been much impeded.

Exp. 3. The supra and infra orbital nerves were exposed, directly where the trunks make their exit from the bones of the cranium and face, and being armed with the positive wire, whilst the negative was applied to the connexion already mentioned between the tendines achillis, the muscles of the face instantly commenced the most varying and frightful play of expression possible. The eyelids were raised and lowered, the mouth contorted in every direction, the lips at times writhing as in agony, and then again subsiding into a fearful hurried smile, momentarily broken in upon by anxious quiverings and twitchings, as the shocks passed successively over them.

Exp. 4. The positive wire being applied to the brachial plexus, and the negative to the radial nerve at the wrist of the same side, as also to the ulnar nerve, the arm was thrown with violent extension in different directions; the fingers coiled in and clenched the hand with so much force, that the finger of a gentleman present having been placed within the hand, he was enabled to raise the arm from the table by its grasp alone. A small incision having been made at the end of the index finger, and the wire applied, it was suddenly extended as in the act of pointing.

Exp. 5. The thorax was now opened, and the positive wire applied to the great sympathetic nerve and par vagum, whilst the negative was placed upon their filaments about the heart, when the right auricle and ventricle were seen to act, the former more distinctly than the latter: and it was not a little singular to observe the effect of the same agent on muscular fibres of different arrangement; for in the flexors and extensors of the limbs it had produced sudden and violent spasmodic action, but on the circular and irregularly radiated fibres of the heart the action appeared more natural, and there was a gentle vermicular motion, or rather a rising and falling of its fibres, as if they did not all act at once, but rather separately and individually, as one ceased the other taking on its action.

Exp. 6. The radial nerves being connected, the one to the positive, the other to the negative wire, the hands were violently clenched, and the heart also was observed to act slightly but not as distinctly as in experiment 5.

Exp. 7. A metallic instrument was thrust through the cervical vertebræ, between the second and third, and was connected to the positive wire, the negative pole being directed to the communication between the tendines achillis. The whole body was violently agitated by constant tremor, and on the legs being flexed, they were thrown out with great violence; but the energy of action was much diminished from the rapidity with which the body was now cooling.

Exp. 8. The anterior crural nerves were exposed, as they pass out from the pelvis, and connected with the positive wire, the negative remaining as before : the limbs were much agitated, and on being flexed were thrown out with violence, the first effect being to bring them into powerful adduction.

Exp. 9. The two poles were connected to the two ulnar nerves, and the effects were nearly the same as in exp. 6. the heart also acting, but with less energy.

Exp. 10. The positive wire was applied to the par vagum in the neck and to the left phrenic as it crosses the pericardium, when the heart was thrown into distinct action, which was increased by adopting Dr. Ure's expedient of passing the negative wire over the plates of the battery.

Many other minor experiments were attempted, but as the body was nearly cold, for nearly two hours had been consumed, their effects were too slight to notice.

The intestines on being exposed, displayed a most rare and beautiful view of the lacteals gorged with their contents, ramifying in delicate mesh-work over many parts of the mesentery : nearly a teaspoonful of their fluid was collected, and it is to be regretted that, from the hurry of the experiments, sufficient opportunity was not afforded for examining, under such favourable circumstances, the exact manner in which they open from the intestines.

It will be perceived from the above that Aldini and Volta were in error, when they assert that the heart, in common with all the involuntary muscles, is not susceptible of galvanic influence; and that Fowler and Vassali are correct in their observation of the heart's motion. But we could not ascertain how far the statements of Humboldt and Carpul are correct in ascribing similar actions to the intestinal canal, although there is every reason for placing full reliance on their assertion.

REVIEW.

Essays *on various Subjects of* **Medical Science.** By **David Hosack**, M. D. F. R. S. L. & E. Professor of the Theory and Practice of Physic and Clinical Medicine in the University of the State of New-York, &c. &c. Two vols. 8vo. pp. 380 & 472. New-York. 1824.

The volumes before us contain a collection of the various writings and publications of one of our most distinguished medical men, from the year 1794 down to the present day. We need scarcely say that we have been much gratified by their appearance, and that they furnish, in our opinion, a most decisive and honourable proof of the zeal, ability, and success with which their author has devoted himself to the cultivation of medical science, during a long and prosperous career of professional distinction. In expressing these sentiments concerning the general value of the present Essays, we do not wish to be understood as approving of every thing contained in them. On the contrary, with regard to some of the more important doctrines inculcated by our author, we have the misfortune to differ entirely from him in opinion. In an especial manner is this the case in relation to almost the whole of his theories concerning contagion in general, and particularly as appertaining to yellow fever.

On the latter of these subjects we have so recently stated our views*, that we shall not at present resume the consideration of it. Upon contagion generally, and our author's classification of contagious diseases, we shall, however, take the liberty of making a few remarks.

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* Vol. II. p. 472.

Essay No. X. *Observations on the laws which govern the communication of Contagious Diseases.* Vol. I. p. 253. This paper was originally addressed to Dr. Chisholm of England, in 1808, and the object of it was, as stated by our author in a subsequent paper, " if possible, to narrow the ground of controversy upon the important and much contested subject of contagion. This" he " endeavoured to do, first by showing that the distinction which had been proposed by some writers, between contagion and infection, was unnecessary and fallacious; secondly, by dividing all diseases which are contagious, infectious, or communicable from one person to another, into different classes, according to the several laws which appear to govern their communication." Vol. I. p. 265.

Dr. Hosack, accordingly, divides contagious diseases into *three* classes, each of which he asserts to be governed by laws peculiar to itself.

The *first* embraces " those which are communicated *exclusively* by contact."

Under this class are embraced the itch, syphilis, the laanda of Africa, frambœsia or yaws, elephantiasis or leprosy, hydrophobia, and the vaccine virus.

" Neither of these diseases," according to our author, " can be communicated in any other way than by *contact*; they are therefore *contagious* diseases, in the strict etymological sense of the term. It is also to be remarked, that these diseases are never conveyed through the medium of the *atmosphere*; actual contact alone can communicate them from one person to another. These diseases" he adds, " acknowledged by all to be contagious, and so denominated by all writers, have a law of communication peculiar to themselves."

The *second* class consists of those diseases which, according to Dr. H. " are communicated both by *contact* and by the *atmosphere*. This class comprehends small-pox, measles, chicken-pox, hooping-cough, scarlet-fever, and cynanche maligna. "These are communicated under different circumstances, and governed by *different laws* of communication" from those of the *first* class.

The *first law* of this class is, that "contact, or the *close approach* to the sick labouring under these diseases, will communicate them to those who are susceptible of their influence—but they are no less communicable through the *medium of the atmosphere.* A *second law,* which governs the communication of this class of contagious diseases, is, that they are communicable in *every season,* in the heat of *summer,* as well as in the cold of *winter*—in a *pure* as well as in an *impure* air, though more readily by the latter than the former. A *third law* of communication in this class of diseases, is, that the persons afflicted with them are not generally susceptible of a second attack. I say *generally,* because exceptions are related upon very respectable authority.

"This second class of contagious diseases is, therefore, abundantly distinguished from the first; but they are still associated by most medical writers under the same head of contagious diseases, without assigning to each class its discriminating characters." Vol. I. p. 257.

Our author's *third* class of contagious diseases includes plague, yellow fever, typhus, and dysentery. This like the two former classes is said to have "a law peculiar to itself, i. e. the diseases composing it are communicable, or otherwise, depending upon the *condition of the atmosphere* in which they occur or are introduced." Vol. 1. p. 259.

"In a pure air, in large and well ventilated apartments, when the dress of the patient is frequently changed, all excrementitious discharges immediately removed, and attention paid to cleanliness in general, these diseases are not communicated, or very rarely so, from one to another. But in an *impure* air, rendered so by the decomposition of animal and vegetable substances, as takes place in low marshy countries, or by concentrated human effluvia, as in camps, jails, hospitals, or on shipboard, they are rendered not only extremely malignant and mortal in themselves, but become communicable to others who approach the sick, or breathe the same atmosphere, which has become *assimilated* to the poison introduced, insomuch that *the same specific disease* is communicated, whether it be the *plague*, *yellow fever*, *typhus*, or *dysentery*." Vol. I. p. 258.

We have given the preceding ample analysis of our author's classification, in order that the objections that we have to urge against it may be the more intelligible to our readers. These we shall now proceed very briefly to state.

We are not quite sure that we perfectly understand Dr. Hosack's meaning, when he uses the word *contact* as applied to his first class of contagious diseases. If he means the actual contact of two living bodies, then we must object to the principle of his classification as not founded on fact; because in none of the diseases under this head is such contact at all necessary for their communication. Neither syphilis, hydrophobia, the vaccine virus, nor any other of the diseases alluded to, require for their propagation any thing more than the application of the respective virus of each disease to the subject to whom such disease is communicated. It is well known that all of them may be communicated by inoculation, and therefore it is self-evident that actual contact with a body labouring under the disease is not at all necessary. This, therefore, we take it for granted cannot be our author's meaning when he speaks of them as being "*exclusively* communicated by contact." If, however, Dr. Hosack intends by the language he uses merely the contact of the contagious virus with the living body, then it does away entirely the whole of his distinction between his first and second classes, for in what other way can small-pox, measles, &c. prove contagious, except by the immediate contact of the causes of these diseases with the bodies of those in whom they are developed? The truth is, that no disease can possibly prove contagious unless such contact takes place. The only difference between the communication of syphilis and measles, for instance, is, that the poison of the first existing in a liquid form, cannot of itself act at any sensible distance from the diseased body. It may, however, by the artificial means of inoculation, be made to act and produce its specific effects at the remotest distances. The poison of the latter, (i. e. measles,) on the contrary, being gaseous, diffuses itself spontaneously into the surrounding atmosphere, and thus produces its effects at greater or less distances from the diseased body. In both cases, however, the principle of their communication is precisely the same. In both it is only necessary that the person to whom the disease is communicated should come in contact with the *contagious poison* producing it. In neither is it at all necessary that he should come in contact with the *diseased body* of an individual labouring under either disease.

The remarks just made will be found of universal application to every disease that can be considered as contagious; and they are designed to show that no disease can possibly be communicated from one person to another, except by actual contact of the contagious virus with the living body. We must therefore consider as erroneous any classification which assumes a different principle as its basis.

Let us proceed, however, to examine some of the other points of distinction between the two classes. " A *second law*," says Dr. H. " which governs the communication of the second class of contagious diseases, is, that they are communicable in *every season*, in the heat of *summer*, as well as in the cold of *winter*—in a *pure*, as well in an *impure* air, though more readily by the latter than the former." With what shadow of reason or propriety this law can be said to distinguish the diseases of the two classes, we confess ourselves at a loss to imagine. Is not itch, syphilis, and every other disease ranged under the first class, communicable in *every season*, in *summer* as well as *winter*—in *pure* as well as *impure* air? Are they not, in fact, much more independent of all these external circumstances than those of the second class?

" A *third law* of communication in this class of diseases, is, that the persons afflicted with them are not generally susceptible of a second attack." This law we conceive to be unsatisfactory, because it applies equally to some of the diseases of the first class.

We come now to the third and last class. To the whole of this class we have to object that it takes for granted the very thing, which of all others should never have been assumed, and that is the *contagiousness* of these diseases. Without entering into any particular examination of the several diseases enumerated under this head, we will simply state that not a single one of them has ever been satisfactorily proved to be contagious, while with regard to some of them the mass of evidence is entirely adverse to this opinion. In relation to yellow fever, more especially, there exists an amount of testimony in favour of its non-contagiousness so overwhelming, that we are at a loss to conceive how any man of judgment and reflection can for one moment resist its influence.

Dr. Hosack himself appears to us to have been fully conscious of the fact, that the contagious character of these diseases was more than doubtful, when he makes the important concession that " in a pure air, in large and well ventilated apartments, when the dress of the patient is frequently changed, all excrementitious discharges immediately removed, and attention paid to cleanliness in general, *these diseases are not communicated, or very rarely so, from one to another.*" In other words, that these diseases, when subjected to the only fair test by which it can be determined whether a disease be contagious or not, are admitted by Dr. H. " not to be communicated, or very rarely so, from one to another." A confession not less creditable to his candour than it is fatal to the cause which he espouses. With what propriety then, we would ask, can these diseases be ranked among those which are denominated *contagious* ?

But we will not prosecute this subject any further. Our object was not to enter upon the discussion of contagion, but merely to state the objections which struck us in looking over our author's classification of contagious diseases. We turn with pleasure to other and more important portions of his labours.

Vol. II. Essay V. *Observations on Croup.* This paper relates to a disease which has always excited peculiar interest in this country, and which perhaps more than any one subject connected with practical medicine, has elicited the talents and resources of our American physicians. The observations of Dr. Hosack are the result of very enlarged experience; and we do not hesitate to say, that they are among the most valuable and instructive contributions which have as yet been made on this subject. We proceed to give a brief analysis of them.

Dr. H. divides croup into two species, idiopathic and symptomatic; the former being primarily and exclusively seated in the trachea, bronchiæ, and surface of the lungs; the latter being the consequence of other previous diseases, among which he enumerates cynanche maligna, scarlatina, measles, small-pox, &c. The facts stated by Dr. H. seem to us conclusive with regard to the propriety of the division; and we are surprised, that a late writer should have called in question the fact, that croup frequently occurs as a consequence of other diseases.

By some writers it has been gravely maintained, that croup is a contagious disease. That it may have been so in certain cases where it was the consequence of contagious diseases, as scarlatina and cynanche maligna, is admitted by Dr. Hosack, at the same time that he denies that idiopathic croup is ever contagious. We agree with him perfectly when he makes the following statement: "I should as readily believe that an inflammation of the brain or of the pleura should be thus communicated, as an inflammation of the membrane lining the trachea; and I believe it may be safely asserted that the fact is otherwise. In the numerous families in which I have prescribed for this disease, I have never known it to be thus communicated, either to the attendants upon the sick, or to other children, even though sleeping in the same room, and frequently in the same bed; but I have more than once been called in the same night to two children of the same family, both having been exposed to the same cause, and especially where there is a great predisposition to attacks of this disease, as is the case in particular families." Vol II. p. 142.

Our author informs us, that he never visited a child upward of twelve years of age in this complaint, except where it had suffered previous attacks of it; at the same time that he admits cases of it having occasionally occurred in adults, and among others adduces that of General Washington. Although we are perfectly convinced that genuine croup may, and does attack adults, yet we are very far from believing that it was the disease which proved fatal to our Washington. On the contrary, the whole history of the case, as recorded by Marshall on the authority of Dr. Dick, proves it to have been purely a disease of the larynx, * at present known under the name of cynanche laryngæa.

It is well known, that by some highly respectable writers on this subject, croup is divided into two species; the inflammatory and spasmodic: as the result of his very extensive experience during thirty years in this city, Dr. Hosack informs us, that he has "never met with a single instance in which it assumed the spasmodic character unaccompanied by symptoms of local imflammation." Vol. II. p. 146.

This is a most important fact, and leading to conclusions of the utmost consequence in the proper management of this formidable disease. It shows the absolute necessity of meeting it in its very onset with prompt and decisive measures, instead of trusting to the temporizing prescriptions ordinarily resorted to for the removal of spasm. Our author's remarks on this point are entitled to the most serious consideration.

In the treatment of croup, Dr. Hosack divides the disease into *three stages:* a division which strikes us as not merely happy in itself, but leading to the most correct and philosophical views of the nature of the disease, as well as of the method of treating it successfully.

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* Marshall's Life of Washington.

"I have been led at the bed-side to distinguish three distinct stages in croup: the first may be denominated the *forming* stage of the disease; in this the affection is local; the irritation has not yet extended to the whole system; the child even sits laughing and playing upon the lap of its mother, manifesting a very unusual but morbid degree of exhilaration; its skin is cool and moist, its pulse not perceptibly accelerated; but its hoarse hollow sounding, and frequently returning cough, its wheezing inspiration, its restlessness, and especially its cries after a fit of coughing, all denote to the physician and parent acquainted with the disease, the consequences that will soon ensue, if active means be not employed to prevent the second, or *febrile* stage. In this stage the whole system partakes of the irritation; the pulse is frequent, the skin hot and dry, the respiration hurried, the tongue covered with the usual white fur indicative of inflammation, the lips and cheeks remarkably florid, the cough frequent, but attended with a more acute sound than that of the first stage; every inspiration too is attended with more uniform wheezing than that which appears in the first, when occasionally an interval occurs in which the child breathes as if in health. But in this second stage no such interval is perceived; the trachea, bronchia, and lungs, become so surcharged by the circulating fluids, that the child has not even a momentary relief from its oppression; and in a short time, if left to itself, especially if the patient be plethoric, the countenance exhibits a purple, livid colour, not unlike that of apoplexy, and is even attended with a degree of stupor, or propensity to sleep. This loaded state of the lungs and interruption to the free return of blood from the head I have frequently witnessed in this stage of croup: if the patient be now neglected, or the evacuations be sparing and insufficient, an effusion from the exhalent vessels opening into the windpipe, bronchiæ, and surface of the lungs, inevitably takes place. In the two former, the effused matter assumes a membranous appearance, probably owing to the forcible passing and repassing of the air through those preternaturally constricted tubes; but in the lungs themselves it appears in the form of a viscid fluid, partly resembling both phlegm and pus. When this effusion has actually taken place, the febrile symptoms sensibly abate, and sometimes disappear altogether; the child is also apparently free from pain, but it suffers violent paroxysms of cough and difficult breathing, attended with an irregular and spasmodic respiration, as in asthma, or dropsy of the chest, and with similar intervals of ease. These paroxysms, in young children, continue but a few hours before dissolution. But in children arrived at eight or ten years of age, they frequently continue several days. A daughter of Gen. Morton, whom I saw in consultation, continued to struggle with those painful paroxyms at least four or five days after the febrile stage had terminated, and the effusion of matter, constituting the membrane, was supposed to have taken place. In some cases the impediment to inspiration, and the distress attending the paroxysms are so great, that the only position in which the patient can respire, is with the head thrown back. In this situation the trachea is extended, and thereby its capacity increased, and adapted to the membrane which it encloses. In some instances before death, general convulsions ensue, which speedily terminate the sufferings of the patient. This stage, in which the membranous effusion so frequently takes place, I denominate the *membranous* or *purulent* stage: from this advanced state of the disease recovery is so rare, that it is not to be expected; it might almost be denominated the fatal stage of croup. These distinctions it is, in my opinion, important for the practitioner to keep in view, as they lead to important conclusions in practice." Vol. II. p. 149.

When called to a patient labouring under the *first* stage just described, our author's practice is to give an emetic, composed of tartarized antimony, and ipecacuanha, in the proportion of one to two grains of the former, and of five to ten of the latter, for a child under ten years of age. This dose is repeated every fifteen minutes, until it operates to such a degree, as to induce a plentiful secretion from the trachea and lungs. If this object can be accomplished, the disease is generally removed at once. Should the disease continue, and run on to the *second* stage, characterized by great general excitement, as well as local determination, more energetic measures are called for. The first of these is venesection. In a child under two years, Dr. H. recommends from two to four ounces to be taken; and in a child from two to six years, from four to six or eight ounces to be repeated as circumstances may require. Concerning the part from which blood should be drawn, our author makes the following observations.

"As I have never, even in the youngest children, experienced any difficulty in opening a vein upon the back of the hand, and of drawing a sufficient quantity of blood from that part, especially after immersing the hand a short time in warm water, I have never had occasion to open a vein in the neck; and as the child is generally very restless in this disease, and there is on this account more hazard in opening one of the jugular veins than those on the back of the hand, I have uniformly preferred the latter. It is also preferable on other accounts: it is difficult to ascertain the quantity of blood drawn from the jugular; the vein cannot be so readily closed, and the orifice is apt to open afresh by a violent fit of coughing." Vol. II. p. 154.

Blood-letting having been premised, emetics, the warm bath, blisters to the throat, calomel in doses of from five to ten grains every two hours, until it operates on the bowels, solution of tartar emetic, &c. are successively used according to the nature and urgency of the symptoms.

In the *third* and last stage of the disease, when effusion has actually taken place in the trachea, the sole object is, if possible, to remove the effused membrane, by means best calculalated at the same time to support the waning powers of the system. For this purpose, Dr. H. recommends calomel in small and repeated doses, squills, the syrup of onions, seneka snake root, ammoniac, assafœtida, the vapour of vinegar and water, and the vitriolic emetics of zinc and copper.

With regard to the use of the vitriolic emetics, we would merely state, that we think our author has assigned to them their appropriate place in the management of croup. If ever useful in this disease, they must be so after all inflammatory action has been subdued, and in that stage we look upon them as articles of great value. The practice of Dr. Hosack has been followed with success by one of the editors of this Journal, as may be seen by a reference to our last number.

Essay VI. *Observations on Glossitis.* Inflammation of the tongue is a disease of very rare occurrence, and has been noticed by very few writers. Dr. Hosack records two interesting cases of it which fell under his own notice.

Case 1. In this case the disease was owing to imprudent exposure to cold on the part of the patient while heated. Shortly after he became oppressed with a considerable degree of soreness about the throat. On the third day succeeding this, his symptoms are thus described :

"His tongue now began to swell, and in a little time became so much enlarged in all directions, that it pressed against the roof of his mouth, and was even protruded beyond the teeth. In this situation he was unable to close his mouth, could not articulate, and was obliged to hold communication by writing. His swallowing too was attended with much difficulty and distress.

"Not only the tongue, but the sublingual glands and those at the root of the tongue, with those of the neck and jaw, all became very much enlarged : his whole neck from the jaw to the clavicles became very much distended, hard and almost unyielding to pressure." Vol. II. p. 182.

Blood-letting was immediately recommended by the physician first called, but was resisted by the patient. Purgatives, a blister to the back of the neck, and gargles were resorted to, without however any effect in subduing the disease.—"His symptoms all increased in violence, his oppression was now so great that he was unable to lie down." On the seventh day after the attack, a tumour was discovered under the tongue indicating suppuration, which on being lanced discharged a small quantity of very offensive matter. After this an abatement of the swelling took place; the tongue also became cleaner and of a more natural colour. On the succeeding day symptoms of congestion of the brain made their appearance, as coma and occasional delirium. For the purpose of relieving the pressure upon the brain twelve or fourteen ounces of blood were now drawn and a cathartic administered. These means succeeded in relieving the affection of the brain. In other respects the patient did not improve. Great restlessness and difficulty of breathing came on and continued to increase until his death, which took place on the ninth day after the attack. The termination of this case presents something remarkable. Dr. Hosack states, that during the whole evening and night in which the patient died, "he continued to walk from one chamber to another and from thence through the hall; his muscular powers remained unimpaired until within a very few minutes of his dissolution: analagous to those cases of yellow fever, in which the patient may be almost said literally to walk to his grave."

Case 2. "Gilbert Jerault, a stout man, aged about thirty-five, was admitted into the hospital June 10th, 1822, for an irregular febrile attack, which, (as it appears by a reference to the prescription book in use at the time,) was treated by laxatives and diaphoretics. By the use of these means he shortly recovered.

"This man had an enlargement of the lower jaw and tongue to such an extent as somewhat to impede speech. This deformity had arisen from a severe salivation, induced one or two years before from some idiosyncrasy of system or improper exposure while under a course of mercury for the cure of syphilis. The disease had been cured, but this chronic enlargement remained. After he had recovered from the fever for which he had been admitted on the 10th, owing to taking cold or some other cause, he was attacked with general febrile symptoms, immediately followed by an extraordinary swelling of the tongue, causing it to protrude from the lips upwards of an inch, and so filling up the posterior fauces as greatly to obstruct respiration. The progress of this enlargement was very rapid, not exceeding eight or ten hours from the time he first began to perceive it, till he sent for me on account of his difficulty of breathing. On seeing him, his face was flushed and turgid, and there was much action in his pulse. He was immediately bled to between thirty and forty ounces, deep scarifications were made in his tongue with a scalpel, a blister was applied to the throat, and antimonials and salts were administered: though I do not remember whether they were given to such an extent as to produce vomiting. These means were used almost simultaneously, and they produced immediate relief. The bleeding, scarifications, and antimony, must here deserve the credit, as the relief was too sudden to have been at all effected by the blister or cathartic. By the continuance for a few days of the antiphlogistic treatment, the tongue was reduced to its previous size." Vol. II. p. 189.

ESSAY XI. *Observations on Gout.* Concerning the disease which forms the subject of this paper, Dr. Hosack has come to the following conclusions:

" 1st. That gout is not an hereditary disease in the sense in which it is usually considered; that it is only hereditary as far as fortune, and its attendants, ease, indolence, luxury, habits of intemperance, both in eating and drinking, and that predisposition which arises from a strong and vigorous constitution, are hereditary. Accordingly, it is observed by Hoffman, that "many have lost their gout with their fortunes," being compelled to obtain their subsistence by the sweat of their brow. Similar facts are related by Van Swieten and Schenkius. Hence too females, who rarely indulge in the excesses either of the bottle or the table, are as rarely the subjects of this disease; and when so, it is usually after the cessation of the menses, and is then, for the most part, induced by the excessive use of wine or ardent spirits. The writer has also observed, that in those families where it is pronounced hereditary, that it is uniformly earned by the descendant, and that it is not an exclusive patrimony: accordingly it happens that not only the females, but such of the male members of the same family as lead lives of temperance and industry, escape the disease; for the same reason, gout never appears in early life, except when induced by indolence, intemperance, and dissipation.

" 2d. That gout takes place for the most part in the sanguine temperament, in the plethoric habit of body, and is exclusively an inflammatory disease of the whole system, as well as of the part affected.

"3d. That its associates or vicarious diseases, apoplexy, palsy, angina pectoris, asthma, habitual catarrh, eruptions of the skin, obstructed viscera, and dropsy, arise from the same habit of body, and from the same causes.

"4th. That the deposites of saline or earthy matter, which take place upon the joints in gout and rheumatism, in the kidneys and bladder occasioning stone and gravel, in the brain of apoplectics, in the arteries of persons advanced in life, in the coronary vessels and valves of the heart, as frequently attendant upon angina pectoris and other diseases of that organ,* have the same common origin, and that these extravasations are usually the effects of an overloaded state of the blood-vessels.

"5th. That although the same earthy or saline materials exist in the blood in a state of health, and are constantly passing off in our excretions, as appears from the observations and experiments of Scheele, Woolaston, Brande, Pearson, Egan,† and others, they are in no instances the cause of gout; but when deposited upon the joints in that disease, or upon other parts of the body, that such deposites are the effects of plethora, the parent of both.

"6th. That the predisposing causes of gout, in addition to the original vigour of frame, are the excessive use of wine, ardent spirits, animal food, the condiments of the table, and the neglect of the exercise necessary to counteract their effects upon the constitution. While the check of the excretions by the cold of autumn and winter, or the sudden impetus given to the circulation by the returning spring, prove the most usual exciting causes of this disease. Hence we find gout, like rheumatism and other inflammatory diseases, to be the attendants upon autumn, winter, and spring, but rarely to be met with during the summer season, when our diet consists of a large proportion of vegetable food, and the excretions, especially by the surface, are most abundant; hence too, it is observed, that persons who are remarkable for their excessive discharges by the skin, are rarely the subjects of gout, even though the usual causes of this disease are at the same time indulged in to a great degree.

"7th. That as the causes of gout are intemperance and indolence, the best means of preventing this disease may be summed up in their immediate antidotes, temperance and exercise: but where the patient has not resolution to withstand the temptations of the table, and is unable to take the necessary exercise, that occasional evacuation by the lancet, and other means of distinguishing the fulness and excitement of the vessels, should be employed.

"* See Warren's valuable work on the Diseases of the Heart; Baillie's Morbid Anatomy; Burns' observations on Diseases of the Heart; Corvisart on the Heart.

"† Transactions of the Irish Academy."

8th. That the most effectual means of removing the inflammatory action attendant upon the first stage of the paroxysm of gout, consists in depletion by the lancet, cathartics, and such remedies as operate by restoring the excretions from the surface of the body, the physician paying due regard, in the use of these means, to the constitution of his patient, his time of life, and season of the year. That in correspondence with the use of these remedies, both the diet and the regimen of the patient should be simple and strictly antiphlogistic.

"9th. That during the febrile stage of the paroxysm, the part or parts affected should be lightly covered with soft flannel, or carded cotton, for the purpose of soothing the existing irritation, and of promoting a perspiration from their surface; but that both the practice of loading the limb with the accustomed strata of flannel, and thereby of adding to the heat and inflammation of the parts, and that of applying cold water, or other cold applications to the affected limb, are alike prejudicial and dangerous, and are equally to be reprobated.*

"10th. That at the termination of the febrile or inflammatory stage of gout, as of other inflammatory diseases, the same means of restoring the tone of the system are indicated, viz. chalybeates, bitters, the moderate use of animal food, wine, porter, exercise, and in the summer season, sea bathing." Vol. II. p. 233.

ESSAY XIII. *Observations on Tic Doloureux, or Neuralgia.* Dr. Hosack informs us that this disease was noticed by physicians at a much earlier period than is generally supposed. Mention is made of it as far back as the year 1673, when it was described by Ludwig in the Miscel. Nat. Cur. under the title "De dolore superciliare acerbissimo." By English physicians the disease was scarcely known until 1776, when Dr. Fothergill gave a good account of it under the appellation of a painful affection of the face. By most writers this disease has been considered as seated exclusively in the nerves of the face, more especially in the second branch of the fifth pair, or in the portio dura of the seventh. Mr. Abernethy, Sir Everard Home, and others, however, have related cases in which it has assailed the nerves in various parts of the body. Dr. Hosack records some instances of a similar character and concludes his observations with the following remarks.

"* Every case which has come within my knowledge, where the practice of immersing the limb in cold water at the invasion of gout has been habitually pursued has ended in apoplexy or palsy."

"From these facts it appears that neuralgia is not confined to the nerves of the face, as most physicians have supposed; but that it is frequently connected with the general condition of the system, and that we are not in all instances to rely upon the division of the nerve affected, for the cure, but to direct our remedies according to the temperament of the patient, the peculiar condition of the body, and vice of the habit from whence the disease may have originated. Dr. J. Fothergill in some instances traced it to a cancerous or vitiated habit of body, and in three cases removed the disease by the use of hemlock; with the same pathological views, the bella donna has been prescribed in this disease, and according to the report of the writer, with decidedly beneficial effects, and in cases too that had resisted the means ordinarily advised.* Some French physicians have cured it by mercury,† believing that in some cases it may have arisen from a syphilitic taint; others, treating it as rheumatism, have employed calomel and opium with success.‡ As the complaint for the most part occurs late in life, and in females most generally after the natural cessation of the menses, or, if in early life, from the suppression of that evacuation, may it not also derive its origin from the state of the blood-vessels, an arthritic habit, or that condition of body which induces rheumatism,§ especially in persons of the nervous temperament, who are generally the subjects of neuralgia? In cases of this nature, the lancet, warm bathing, alterative drinks, and the vol. tinct. guiac, with other means calculated to operate upon the whole system, may, according to the peculiar circumstances of the case, take the place of the knife, now resorted to for the division of the nerve affected, and which, in some instances, disappoints the patient and practitioner.

"The opinion expressed by the late Dr. Parry, with regard to the proximate cause of this disease, and the plan of treatment thence deduced, is not at variance with the foregoing views. Dr. Parry attributes this painful affection to an increased vascularity, in other words, an inflammatory affection of the neurilema, or membranous envelope of the nerves affected; and places his chief dependence for its removal upon general and local blood-letting.‖

"* See observations on the use of belladonna in painful disorders of the head and face, by Mr. John Bailey.

"† Recueil periodique de Medicine, Paris, 1702, tom. IV. See also Edin. Med. and Surg. Journal, vol. III. p. 273.

"‡ Edin. Med. and Surg. Journ. vol. IV. p. 306. New Med. and Phys. Journal, vol. VII.

"§ See two cases thus induced, related by Dr. Pearson, Edin. Med. and Surg Journal, vol. III. p. 272.

"‖ Elements of Pathology and Therapeutics."

"But as in rheumatism, a morbid sensibility frequently remains in the part affected, and that in proportion to the debility induced, and thereby the pain is continued, and indeed sometimes augmented; so in like manner the second stage of this disease, when the remote causes have been removed, the pain and spasmodic affections are continued, until the tone of the system is restored, by which the irritability of the part affected is counteracted. Tonics in such cases doubtless are called for, and it is probable in this chronic state of the disease that the carbonate of iron has been successfully administered by Mr. Hutchinson,* and that the arsenical solution has been found useful by others.†

"The views taken of this disease by Dr. Armstrong,‡ tracing it to a congestion, or an increased action in the vessels of the brain, and the successful use of depletion by the lancet, local blood-letting and cathartics, are no less in accordance with the principles I have endeavoured to establish, that neuralgia is not a local affection, or disease of a particular nerve, and to be removed by the division of such nerve, but a disease dependent upon the whole system, and only to be counteracted by remedies addressed to the peculiar state or condition of the constitution." Vol. II. 252.

ESSAY XVIII. *Remarks on Sternalgia, or Angina Pectoris.* Concerning this interesting disease little was known until the time of the late Dr. Heberden, who described it in 1768, and gave to it the name of angina pectoris. Since his day various theories have been advanced concerning it; of these the two most popular at present we believe are those of Dr. Wall and the late Dr. Parry, the former of whom ascribes it to a rigid condition of the valves of the heart, and the latter supposes it to arise from an ossification of the coronary arteries. The views of Dr. Hosack on this subject are so interesting that we shall make no apology for the following pretty copious extract from his paper.

"Having many years since met with some cases of this disease, attended with the most alarming symptoms, in which, after the paroxysms were removed by the usual diffusible stimuli, blood-letting and other means of depletion were successfully employed, and ultimately effected a cure; in

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"* See cases of tic douloureux successfully treated by Mr. B. Hutchinson.

"† During my late tour of duty in the New-York Hospital, I have prescribed the arsenical solution with success, in two cases of this affection, which had been of long standing; in these, the disease affected the whole head analogous to hemicrania, but was not confined to a particular pair of nerves.

"‡ See Practical Illustration of Typhus and other Febrile Diseases."

1811, I ventured to communicate my distrust of the correctness of the generally received doctrines on this subject, and expressed the opinion that angina pectoris most frequently proceeds from a plethoric state of the blood vessels; more especially from a disproportionate accumulation of blood in the heart and larger vessels.* From every thing that I have seen upon this subject since the first publication of this doctrine, whether at the bed-side, or derived from the writings of others, I am induced to persist in the belief, that such plethoric condition of the sanguiferous system, both general and local, is to be considered as having, if not an exclusive, at least a predominant agency in the production of this disease.

" In the dissections recorded by Dr. Parry, the only case in which the ossification of the coronary vessels was found, the disease was obscurely marked. In other cases again, which were more strongly designated, the ossification was wanting. In the description of a case in the Medical and Physical Journal,† and another described in the Medical Communications,‡ by Mr. H. Watson, it is expressly said, that the coronary vessels were free from disease. In a number of well-distinguished cases of the complaint, as related by Doctors Heberden, Wall, Fothergill, Morgagni, Percival, and James Johnstone, the coronary vessels were found in their natural state. Upon examining the state of the valves too after death, from other diseases, ossification has been frequently met with, yet no symptoms of angina pectoris had been observed during the disease of which the person had died. In like manner an irregular circulation and palpitation have been oftentimes met with, but without the evidences of sternalgia. Numerous cases of this nature could be cited by the writer: similar facts must certainly be familiar to every practitioner.

" In one case of this disease, a lady who had passed the period of menstruation, suffered frequent paroxysms of angina pectoris: in her last attack she died before medical aid arrived to her assistance. I examined the body after death: no ossification was found either in the valves of the heart or in the coronary vessels; I passed the probe freely through the latter. The auricles, and large vessels, particularly the vena cava at its entrance into the auricle, were of uncommon size, compared with the heart, which was smaller than usual; a considerable quantity of water was found in the pericardium, and the heart itself loaded with fat.

" In many instances again I have seen this disease, with all its peculiarities and symptoms denoting danger, entirely relieved by the means calculated to diminish the volume of circulating fluids, at the same time by other means,

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" * See American Med. and Phil. Register, vol. II. p. 365, 6.

" † Vol. XVI. p. 487; see also New-England Journal of Medicine and Surgery, vol. I.

" ‡ Vol. I. p. 234."

preserving an active current through the various channels of excretion. I also observe that the persons so relieved, have afterwards by temperance and exercise remained in the perfect enjoyment of health. Many of them are still living, and by their exemption from any return of this disease, manifestly show that no such permanent derangement in the organization of the heart, as described by Dr. Wall, or by Dr. Parry, could have existed." Vol. II. p. 289.

Vol. II. Essay XXIV. *Observations on the Weather, and Diseases of the City of New-York, from January 1st* 1810 *to January 1st* 1814.

This paper occupies no less than one hundred and thirty pages, and must be considered as one of the most interesting and instructive parts of the work before us. It is enriched with practical observations deduced from long and extensive experience, and as such will no doubt recommend itself to general consideration.

But it is time to bring our remarks to a close. We have noticed some of the more important articles contained in the present work without attempting any thing like a general survey of the whole, which from the extent and variety of matter which it embraces, it was literally impossible to accomplish in the compass of an ordinary review. In conclusion we have no doubt that the work will receive that respectful notice from the medical public, in this country particularly, to which the high character of the author, no less than the valuable matter which it contains, so justly entitle it.

Medical and Philosophical Intelligence.

DOMESTIC.

Trial and conviction for murder, and pardon on the plea of Insanity.

A case of some interest in Medical Jurisprudence has occurred during the last year in this state, the particulars of which we shall briefly detail. They are furnished by a correspondent whose investigations in forensic medicine are neither few nor unimportant.

"In January 1823, William Kirby, a resident of the county of St Lawrence, was indicted for the murder of John Hughes, (a son of his wife, by a former marriage) aged four years, and also of his daughter Frances Kirby, aged two years. At the court of oyer and terminer, held in September 1823, the prisoner was put on his defence, and he pleaded not guilty. It was proved on the trial, (and admitted by the prisoner,) that on the 22d of January 1823, he had thrown the two children into the Oswegatchie, from a bridge leading across that river. The fact, indeed, of the murder was fully and entirely admitted by the prisoner. The justification of this homicide was *insanity* at the time he committed the act.

To support this defence, one witness, residing at Prescott (Upper Canada) stated, that the prisoner came to his house about a year before the murder was perpetrated, and worked with him about ten days. During the time that he was at the house of this witness, he said publicly that he was a deserter from the British army, and that he would give himself up at the fort; that he went to the fort, returned in a day or two, and said he was acquitted. Another witness (Henry Hamilton) testified, that he knew the prisoner, and had boarded and worked with him: that the prisoner often complained of a *pain in the head*, and could not eat his meals. He thought him a singular man: he often found him sitting alone in the fields, and he would often stop at work, and appear to forget himself, but *it never occurred to the witness that he was crazy.*

Christian Hill saw the prisoner about a year before the trial, and for three months after that time. Kirby boarded for a month or two at the house of the witness, and when his wife and children arrived he appeared much pleased and very affectionate. They had not been with him more than a week or two when the children were drowned. Previous to the arrival of his family, he expressed great anxiety about them, and said he should never see them unless he *saw them soon.* On an evening, while boarding at witness's house and during the autumn, Kirby said he was *going to drown* *himself.* This produced no alarm; but he shortly after left the house without his hat and coat, although the weather was cold, and was absent until near morning. He mentioned, that if he could have succeeded, while out, in procuring some rum, he would have been in eternity.

The Rev. James McAuley testified that he had visited the prisoner three or four times, in prison: the prisoner's mind appeared unsettled, and he had sometimes thought broken and scattered. Dr. Joseph W. Smith was requested by the civil authorities, to assist at the examination of the prisoner, to ascertain whether he was insane or not. "He asked the prisoner several questions with that view, but discovered no indications of insanity. The prisoner, however, might be insane and the witness unable to discover it." C. D. Raymond, sheriff of St. Lawrence county, said, that the prisoner had been in his custody since the winter preceding, and that he never saw any thing indicative of insanity.

The examination and confession of the prisoner was also produced. In it, he says "that he had it in contemplation to destroy the children for about a week past; that the children had given him no offence; that he did it because he thought it better for the children to go into eternity than to stay in this world; that he intended to have destroyed himself with the children, but the thought struck him at the moment that suspicions might rest on his wife, and he determined to stay in order to shield her from any imputations; that he had been in the United States about five years, and for the last six months had been seeking to destroy himself; that he believed he should have been happy, if he had drowned himself with the children, and that he could have supported the children comfortably."

The Jury were particularly charged on the point of insanity by the presiding judge, but after being out about fifteen minutes, they brought in a verdict of *guilty*.

A representation was subsequently made to the Governor, by the Judge, and the district attorney who prosecuted on the part of the people, concerning the unfortunate convict. This, together with an examination of the testimony, led that officer to the belief that Kirby was insane when he committed the alleged murder, and it was therefore determined to exercise the power of pardon, which, by the constitution, is vested in the Executive of the state. "Believing, however, that it would be dangerous to the community to suffer the convict to go at large," the governor only postponed the period of execution, for the purpose of obtaining a law, by means of which he could annex to the pardon the condition of perpetual imprisonment.

On stating the above circumstances to the legislature, the consideration of them was referred to a committee of the senate, and it was from a report made by that body that the facts related above are obtained. It will be perceived that it remained with the legislature to decide on their value as proofs of alienation of mind, and it is almost needless to add, that in a case of this nature a leaning to the side of mercy was readily exhibited. A law was passed complying with the request of the governor, and enabling the keeper of the state prison to receive Kirby into his custody.

As all the facts on which the above decision was made, are contained in the abstract now given, it will certainly not be deemed improper to advert to the leading features of the case, and in the first instance we may remark, that the proofs drawn from the conversation or actions of Kirby are very uncertain and inconclusive indications of insanity. The most intelligent witnesses, the clergyman and sheriff observed nothing of this state of mind, while a medical man who examined the prisoner expressly with a knowledge of the charged insanity is free to declare, *that he discovered no proofs of it.* We do not hazard therefore much in asserting that the plea of insanity was unsupported.

There remains however an important consideration, which, although not expressly mentioned, has doubtless exercised considerable weight in the decision of the subject, and that is, *that the act*, a father murdering his children, *is of itself a strong proof of the presence of insanity.* In canvassing such melancholy cases as the present, the mind naturally inquires whether any proof of malice be present, and it has happened that maniacs have suffered as murderers because the chain of testimony was apparently clear with respect to the real or supposed hatred entertained by them against their victims. Here however no such suspicion can be indulged: indeed invention is perfectly at fault to assign a cause, and we readily and willingly refer to a disordered mind what would else be a crime of the deepest and most terrible atrocity. Fanaticism, which is constantly destroying its dearest earthly objects, is thus explained, and indeed can alone be explained with any show of probability in this way. But it must also be recollected, that crimes as atrocious as any that the records of insanity can present have been committed by those whose sanity was undoubted; it therefore becomes a question of the deepest interest as to the indications which are to point out these different states of mind. We know of none except a diligent, enlightened examination of the conversations and actions of the accused individual; a comparison of these with the history of his previous life and a cautious inquiry as to the motives for the crime. Believing that these in the present case will not warrant a belief in the insanity of the individual convicted, we are still ready to bestow our approbation on the humane policy which while it prevents him from doing further injury to the public, enables him to repent in solitude over the commission of his detestable offence."

Case of Anthrax, communicated to the editors by D. C. Freeman, M. D. *of Windsor, North Carolina.*

This case occurred in my practice in a neighbouring town, (Washington.) Mr. ———, aged 63 years, a native of England, of a sanguine temperament, leading an inactive life, and intemperate in the use of spiritous liquors, was the subject of this disease. He had for several years laboured under a hemiplegia: it had made its appearance, he informed me, in the manner of a common bile, which he supposed it was, but from the intolerable itching and burning pain attendant on it, and from its increasing rapidly in size, he was induced to send for me in August 1820, on the sixth or seventh day of the disease: on examination I found a large tumour about six inches in circumference covering the ligamentum nuchæ and involving the muscles of the neck, so as to make it extremely painful to move the head. The tumour had now assumed the honeycomb appearance so characteristic of this disease, the cells being filled with a thin, acrid matter. His pulse was full, strong, and frequent; tongue covered with a white fur, and appetite bad, or rather a loathing of food. I took ten ounces of blood from him and gave him a cathartic of sulph. sodæ. As local applications I made use of bread and milk poultices renewed four times a day, previously cleaning the part with warm soap suds. These applications were continued for several days, when the disease had increased to nearly double the former size, about eleven inches in circumference, and it began to assume a gangrenous appearance in the centre. The disease now appeared very formidable, and was spreading to an alarming extent. I found the treatment had been inefficient, I accordingly commenced the stimulant plan. The part was washed with soap suds made more stimulating by the addition of rum, three times a day, and dressed with camphorated spts. of peruv. bark; the spts. vin. rect. being used as the solvent of the camphor. A pill of 2 grs. opium was given every night. From the commencement of this plan of treatment the ulcer ceased to spread and commenced sloughing, so that in a week from this time the slough had entirely separated and the ulcer discharged laudable pus. The camph. spts. and bark were now laid aside, and it was dressed with the ung. basil. flav.

His appetite remained very much impaired during the whole course of the disease. He entirely recovered from this attack, but died a year after of apoplexy after eating a hearty dinner.

The peculiarity of this case was that the system laboured under no typhoid symptoms, the pulse fell after the bleeding to its natural strength, and the tongue remained clean after the white fur disappeared, so that no internal medicines were made use of except one or two doses of salts and an opium pill at night.

The Medical Review and Analectic Journal.—The first number of a new periodical work, to be published quarterly, has just appeared, conducted by *John Eberle*, M. D. &c. and *George McClelland*, M. D. &c. Philadelphia.

Results of Meteorological Observations for 1823, *at Albany.*

By T. Romeyn Beck, M. D.

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Mean temperature at 7 A. M	42.04
Mean temperature at 2 P. M.	53.46
Mean temperature at 9 P. M.	46.43
Mean of all the observations	47.31
Greatest height of the thermometer	94.00
Lowest height of do.	—6.00
Greatest annual range	100.00
Greatest monthly range	55.00
Greatest daily range	30.00

Weather.

Clear days	number	149
Cloudy days	do.	155
Variable days	do.	61
Snow ; number of days on which it fell		35
Rain ; number of days on which it fell		67
Quantity of rain during the year, (January, February, March, and December, excepted,)	inches	20.21

Winds.

North,	number of days 39	South West,	No. of days 11
North East,	do. 9	West,	do. 77
East,	do. 2	North West,	do. 76
South East,	do. 91		
South,	do. 60	Prevailing wind, *South East.*	

University of the State of New-York.—The annual course of lectures in the College of Physicians and Surgeons in the city of New-York, will commence on the first Monday of November, 1824.

Dr. Post, on Anatomy and Physiology.

Dr. Hosack, on the Theory and Practice of Physic and Clinical Medicine.

Dr. Macneven, on Chemistry.

Dr. Mitchill, on Materia Medica and Botany.

Dr. Mott, on Surgery.

Dr. Francis, on Obstetrics and the Diseases of Women and Children.

Omission.—In the list of graduates of 1824, in the College of Physicians and Surgeons of this city, by accident we omitted

William Walton Verplanck, A. B. of New-York, on Antimony.

FOREIGN.

Emetine of the Violet or Violine.—At a late sitting of the *Académie Royale de Médicine*, Section of Pharmacy, M. Boullay read a *Mémoire* on the analysis of the violet, *viola odorata*, from which it appears that the violet contains an active, alkaline, bitter, and acrid principle, similar to the emetine of ipecacuanha, which the author proposes to distinguish by the names of *emetine of the violet*, *indigenous emetine* or *violine.* This substance according to M. Orfila, possesses very powerfully poisonous qualities.

It is somewhat remarkable that the active and emetic principle of the violet resides equally in the root, the leaves, the flowers, and even in the seeds. In each of these parts it is found associated with different immediate principles, which modify its action on the animal economy.

The active principle of the violet was at first obtained in a state similar to the emetine of the ipecacuanha, possessing similar properties; but with this difference, that it was united to the malic acid, instead of the gallic acid, which is found in the ipecacuanha.—*Journal de Pharmacie, Janvier,* 1824.—*Lon. Med. Repos.*

Tests for Arsenic. (Annals of Philosophy, Jan. and Feb. 1824.)—The following improvements in the mode of using the tests for this poison have been suggested by Mr. R. Phillips of London, and Dr. Traill of Liverpool. 1. For executing the process of reduction and sublimation, almost every work on chemistry and on medical jurisprudence advises the analyst to expose the mixture of the black flux and oxide, for ten or fifteen minutes, to the heat of a charcoal choffer, in a coated tube, a quarter of an inch in diameter, and eight or ten inches long. Both Mr. Phillips and Dr. Traill very judiciously condemn this process, as clumsy and unnecessarily complex. Dr. Traill proposes to subject the mixture to the heat of a blowpipe lamp, in a small and naked tube, and says he has thus detected a tenth part of a grain. This mode of procedure we have been always in the practice of following, and have experienced no difficulty in procuring an obvious metallic crust from a sixteenth part of a grain. Mr. Phillips, however, advises the substitution of the ordinary flame of a spirit-lamp, which answers admirably, for it does not disperse the sublimed metal so much as the blowpipe. As tubes are not always at hand, he recommends the use of a long ten drachm phial, and describes minutely the mode of employing it. He ought to remember, however, that a tube is not always at hand only where the experimenter is not a chemist, and that the expedient recommended will succeed, like all other shifts, only in the hands of a practised person. With the ten drachm phial, the experiment will often fail, if the quantity be minute; for the sublimate will be diffused too much to be distinctly recognised. 2. Mr. Phillips has given a simple process for preparing a solution of sulphuretted hydrogen. Authors seem universally to prefer the solution of the gas, but for what reason we know not. We have certainly found a stream of the gas itself to be quite as delicate; and it is of course much more easily applied, as the solution cannot be kept for occasional use. 3. He has suggested a very neat improvement on the cuprous test. Add the solution of potass to that ofthe sulphate of copper; a blue precipitate is thrown down. If an arsenical solution be then added also, the precipitate becomes grass-green or apple-green. The change, we find, takes place slowly, unless the quantity of arsenic be large. 4. When the arsenic is dissolved in coloured fluids it is difficult or impossible to obtain the true precipitates with the liquid tests. To remove the colour, Professor Orfila recommends the previous use of chlorine in solution. This, however, has the disadvantage of rendering the silver test difficult of application, because the chlorine throws down the silver in abundance; and, besides, we have observed, that, although the colour was destroyed in the solution, it often partly reappears in the precipitate, so as to give it a dingy hue. Mr. Phillips proposes to destroy the colour with ivory-black. "On considering this part of the subject, it appeared to me that animal charcoal (ivory-black) might be advantageously employed for the purpose of destroying the coloured matter. I therefore mixed some of it with a coloured solution of arsenious acid, namely, the *Liquor Arsenicalis* of the London Pharmacopœia. I found that the colouring matter was so completely destroyed in a few minutes, that the test of nitrate of silver, or any other, might be readily applied. I repeated this experiment with port wine, gravy-soup, and a strong decoction of onions, and succeeded, ~~in~~ these cases, in procuring a solution sufficiently colourless for the application of the most delicate tests. It might be supposed, that the phosphoric acid, which the animal charcoal contains, might have some share in the production of the yellow precipitate with silver. I found, however, that water or wine, which was digected on the animal charcoal, produced no effect with the nitrate of silver, excepting a slight precipitate of chloride; and to prevent this, the ivory-black should be washed on a filter with boiling distilled water, till the fluid running through ceases to be affected by nitrate of silver. If, however, the ivory-black be of good quality, this precaution is unnecessary. *Edin. Med. Jour.*

Convulsions, caused by Worms, cured by injecting Tartar Emetic into the Veins.—Dr. Meplain, of Donjon, in the department of the Allier, is the author of this interesting case. This gentleman was called upon to visit a girl, twenty-two years of age, of a lymphatic temperament, short and fat, who had suffered, from her infancy, from attacks of worms, but was in other respects healthy. For upwards of a fortnight previously, her appetite had been voracious; yet, notwithstanding she was always hungry, the sight and smell of food disgusted her, and she really ate but little; her nights were disturbed by frightful dreams; in the morning she complained that her mouth was full of a mawkish saliva; she had frequent inclination to vomit. At the termination of a journey, in which she had suffered a good deal from cold and damp, she was seized in the evening with a violent attack of fever, with intense head-ache and eructations, wandering pains in the limbs, and great restlessness. The night passed badly, with violent cramps in the legs, low delirium, and grinding of the teeth. The next day, hysterical symptoms, frequent efforts to vomit, convulsions, and continued agitation. In the night the patient lost all consciousness; the limbs became stiff. Dr. Meplain found his patient on the 15th instant, in the following condition:—She was lying on her back, in a state of complete immobility; the eyelids raised, the eyes fixed, the pupils contracted; the head completely bent backwards; the jaws forcibly held together, so that they could not be opened by any efforts; the limbs in a state of tetanic rigidity; pulse scarcely perceptible; the skin cold; abdomen soft; and the urine (the last passed on the preceding day,) white and milky. Dr. Meplain, from all the previous circumstances, conceived these symptoms to be produced by the presence of worms; being taught, he says, by numerous dissections, that, in these cases, the coming on of convulsive symptoms indicates that the worms have passed into the stomach, and seek an exit by the œsophagus. He therefore attempted, by various means, which we need not detail, for the space of six hours, to bring on the action of vomiting; but without success. He then determined, considering the very critical state of the patient, to attempt the injection of an emetic into the veins. Dr. M. therefore, laid bare the median vein of the left arm, which having separated from the cellular tissue, and having passed a ligature underneath, (interposing a piece of pasteboard between it and the vein,) and drawn it out to the level of the integuments, he pushed the blood contained above the ligature upwards with his fore-finger, and then made a longitudinal incision of four or five lines in the vein, into the cavity of which he placed the canula of an ordinary trocar; this being done, he injected, by means of a hydrocele syringe, six ounces of whey, in which were dissolved four grains of tartar emetic. When this quantity was taken into the vein, the ligature was cut, the vein suffered to fall into its situation at the bottom of the wound, which was brought together and bound up, as is usual after a common bleeding.

The patient gave no sign of sensibility during the operation, which was finished at eleven minutes after two; at twenty-eight minutes after two the eyes and the lower lip began to move. These details are continued, but at too great a length to permit us to follow them verbatim: suffice it to say, that at forty-two minutes past two vomiting took place, and eight lumbrici, rolled up in a ball, were ejected; they were all living. The amendment of the condition of the patient was striking: the rigidity of the limbs had ceased; she could swallow, but could not speak; the pulse was stronger, but intermitted; and she appeared to be fainting. At fifty-six minutes after two, she vomited again two lumbrici of a larger size; after which she began to articulate, complaining of a sense of heat in her chest, of a violent head-ache, and a sense of uneasiness, which she could not describe. From that moment the condition of the patient presented nothing remarkable. She vomited several times afterwards, bringing up, together with a prodigious quantity of bile, five more lumbrici. For three days after, the patient suffered much general disturbance of the system, head-ache, thirst, &c.; but the menses appeared on the 18th, and on the 20th she was quite recovered.—(*Jour. Comp. des Sciences Med.* Fevrier.)—*Lon. Med. Jour.*

Perforation of the Stomach, recognised during Life.—J. B. Beneux, aged fifty-seven, was admitted at La Charite, in December 1823, having at the pit of the stomach an indolent indistinct tumor, which appeared to have its site in the left lobe of the liver. According to the account of the patient, it had been present about twelve months, and had succeeded to a violent blow on the part. No bad effect had been produced on the health of the subject, whose appetite was good, and who had neither fever nor vomiting; he was in moderate condition, and without any appearance of emaciation, while the expression of the countenance, and general aspect, conveyed no idea of any chronic disease. He remained in this state nearly a month, and M. Laennec began to doubt the existence of the tumor, which at times was very indistinct, and suspected that M. Beneux only wished to take up his quarters in the hospital for the winter. In the beginning of January, however, he began to experience nausea and vomiting: these symptoms at first came on only in the morning, and the egesta consisted of stringy mucus, without smell. Soon afterwards, the aliments were vomited a short time after they had been received into the stomach; and from this period the patient began to lose flesh, the skin at the same time becoming sallow. The tumor remained without perceptible change, except that some pain was now excited by strong pressure. M. Laennec now suspected scirrhus of the stomach. On the 15th of January, the matters vomited began to assume a brown appearance, and soon became exactly like coffee-grounds. On the 19th, the patient was seized all at once with acute pain in the abdomen, which came on immediately after swallowing some soup. At ten in the morning, when M. Laennec saw him, the abdomen was extremely painful on pressure, and sounding externally (*resonnant exterieurement*) on very gentle percussion; the features pinched; the pulse contracted, very small, and very weak. Judging from these symptoms, M. Laennec made the following remark in the report: "Ventriculus hodie ruptus est in loco scirrhi, et jam peritonitis adest et tympanitis abdominalis." In explaining afterwards the reasons for this diagnosis, he founded it principally upon the sudden appearance of peritoneal tympanitis, which he recognised by a sensation analogous to that which a sheet of fine parchment, placed within the cavity of the abdomen, might have produced, and which he experienced in pressing the anterior part of the belly, or striking it very gently. As to the rest, this sensation was fugacious, and scarcely any of the pupils could discern it distinctly. Several leeches were applied to the left side, and the patient put on rigid diet. Some relief was given by these means, which were repeated next day; but the patient gradually sunk, and died on the evening of the 24th, having become inconceivably emaciated during the last few days. The appetite, however, had returned, and some soup, which was allowed him, neither increased the pain nor vomiting.

Examination of the Body.—The abdomen, on being struck, emitted the same lymphatic sound which had been perceptible during life. On cutting through the integuments, a considerable quantity of air was evacuated, which had little smell, and evidently came from the cavity of the peritoneum. This cavity contained, besides, about two pints of fluid, having a yellowish-brown colour, with numerous irregular flocculi. The liver was considerably diseased; but the principal interest was, of course, attached to the state of the stomach. On its anterior surface, it presented the appearance of furrows, converging towards the centre of the lesser curvature; being raised with caution an oval-shaped ulceration was discovered on the posterior surface, and in the centre of this was a small perforation, through which the contents of the stomach had escaped. Being cut open along the great curvature, it presented internally a much more extensive ulceration, round which the coats of the viscus were considerably thickened and indurated, with a greyish semi-transparent matter connected with them. These appearances diminished in proportion as the distance from the ulceration increased, and finally vanished. The pylorus was not diseased. The pancreas, which was intimately connected with the stomach, was converted into a firm, white, medullary-looking substance; its rounded end alone being in a healthy state.—(*Rev. Med.* Mars.)—*Lon. Med. Jour.*

M. Magendie's *Case of Hydrophobic Affection, Treated by Injection of Water into the Veins* *.—The following case, which has been much talked about, we give entire and without comment.

" About noon on the 15th of October, I was requested by M. Caillard, resident physician at the Hotel-Dieu, to come immediately to that Hospital to give my opinion relative to a man in the last stage of Hydrophobia. I reached it about one. Several students whom I met, told me that if I wished to see the patient alive, I had not a moment to lose. The man had already been placed in a detached room; he had on a strait waistcoat, and was agitated with most furious motions: approaching the bed, I recognised all the characters of rabies: the eye threatening but not injected; exclamations; most violent efforts to liberate himself from restraint; change of voice; thickened saliva; and attempts to bite objects presented to him, alternating with intervals of repose. In these moments of short duration, he understood the reasoning and consolation addressed to him, but soon relapsed into fury. The sight of liquids, or a mirror, excited extreme agitation. In the morning he had swallowed a few mouthfuls of fluids, but when I saw him, a spoonful of water poured between his lips, produced frightful convulsions of the muscle of the pharnyx, and was violently spit out over the assistants.—Noise, or merely touching his hair with the finger, excited convulsions of incredible intensity. His body was alternately bent and extended with inconceivable force. The pulse was upwards of 150 in a minute, and respiration interrupted. From this combination of symptoms, I could not fail to recognise hydrophobia, and the near approach of death.

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* Journal de Physiologie, October 1823

"I asked if the man had been bitten, but found that his friends knew nothing on the subject. He had been despondent for some time, his strength not permitting him to continue his work as a baker; his sadness had increased after having received a letter from a woman he loved; a fortnight past he had sought relief in drinking for several days; the consequence was copious bleeding from the nose; a physician was called in, suspecting cerebral congestion, he ordered thirty leeches, and three bleedings from the arm. Notwithstanding this treatment, he had been seized with several attacks of fury, in which he threatened those about him, and drank with difficulty. His relations seeing him grow worse, and no longer able to restrain him, brought him in the night to the Hotel-Dieu. The patient had there been copiously bled from the foot without any diminution of the attacks, which became more forcible and more frequent.

[Here M. Magendie states that he had intended to innoculate a dog with the saliva from the patient, but that he was not able to procure a sufficient quantity.]

"The case being urgent, and bearing in mind the results of the experiments related in the first Volume of this Journal, in which I had seen the symptoms of rabies cease in dogs after the injection of tepid water into the veins, I resolved on trying this extreme measure.

"I procured a small hydrocele syringe in bad condition, and some water heated to 30° Reaumur. I exposed the patient's right arm by an incision in the strait waistcoat. I was struck by remarking several small wounds on the index finger, and another much larger placed over the second metacarpal bone, and apparently the result of a recent cauterization. The patient was unable to answer any question, and his friends not having any information on the subject, I set about exposing a superficial vein in the fore-arm, an operation rendered difficult by the constant motion of the patient. With the help, however, of five or six strong students, I passed two flat ligatures under the vessel, and made an opening in it large enough to admit the point of the syringe. It was now a quarter after one; I injected at nine times, water heated to thirty degrees, to the amount of about two pounds. On account of the bad state of the instrument, I calculate that about a dozen bubbles of air may have entered with the water.

"At each time that I injected a syringeful, I examined the patient, but he presented nothing particular, continuing to vociferate, to talk of his inevitable death, &c.; and I only stopped because I thought I had introduced a sufficient quantity of water to produce a sensible effect. The injection was finished at forty minutes after one: I tied the vein above and below the opening. Already, an unlooked for calm began to show itself; the pulse from 150, fell to 120, was soon 100, and within twenty minutes was 80. All the urgent and violent symptoms disappeared with a promptitude which astonished the assistants; for myself at this moment I experienced the most lively satisfaction I have ever felt.

"The patient recovered the use of his senses and understanding; a calm succeeded to his fury, his eyes resumed their natural expression, the convulsive motions ceased, and strange to say, he drank a glass of fluid without any difficulty. M. Caillard caused the strait waistcoat to be removed, and the patient begged to be allowed to go down into the court in order to make water. For half an hour this request was supposed to be the result of delirium, but he repeated it so often and so pressingly, that M. Caillard consented, and was surprised to find the patient walk quietly, supported by the students, to the door. Seeing that his desire was real, he was told that it would be better to make water in a corner of the room, which he did, and in a few minutes passed about a pound of turbid, yellowish urine, so fœtid, that it was necessary to remove it immediately.

"From this time, which happened an hour and a half after the injection the patient inquired for his friends, saw them, spoke of his affairs, gained courage and confidence.

"His state was remarkable, and not like any thing known: he was without fever, his pulse not above 80; but all the motions of the system of organic life, as the contractions of the heart, respiration, speech, &c. were performed with a rapid trembling. When any muscle was touched, it was felt to be agitated with the same trembling; in short, the morbid phenomena presented by the patient were as uncommon as his position was new.

"In the evening of the 17th, he received the consolations of religion. Whether the impression thus made was too powerful, or from some other cause, hemorrhage from the intestines took place in the night; the blood was coagulated, apparently arterial, and was mixed with portions of solid fæces. This accident was followed by a little pain in the abdomen, which was relieved by fomentations and emollient injection.

"The improvement continued without interruption until the fifth day, when the patient complained of severe pains in the wrists, elbows, and knees. I at first thought them the results of his struggles during the fits; but in spite of emollients they became so violent, that it was with difficulty he could support the weight of the bed clothes. The left knee in particular was swelled, as were the wrist and elbow of the same side. On the seventh day, fluctuation became evident, principally in the knee. Besides these accidents, clearly unconnected with the disease, and probably with the mode of treatment, another appeared. On the morning of his arrival at the Hotel-Dieu, M. Caillard had judged it necessary to have him largely bled from the foot. In consequence of his sudden movements in a state of exasperation, two lancet points had been broken in the inner side of the tibia. These foreign bodies excited violent inflammation of the foot and back part of the leg, of which the patient complained much, and every thing denoted the formation of a large abscess in these parts.

"These symptoms seriously threatened the life of the patient; nor were they the only ones; vomiting of greenish fluid occurred; the abdomen became tender when touched in the region of the cœcum, and fever appeared. Some imprudent person told the patient that he had been rabid, and that an experiment had been performed upon him: from that time his mind became affected, he despaired of recovery, and feared at every moment that it was intended to suffocate him; in short, on the eighth day all hope of recovery was lost, and he died in the early part of the ninth; his death presented nothing remarkable; he sunk in a state of imperfect delirium.

"The body was opened twenty-two hours after death, in presence of a great number of physicians and students.

Dissection.—"Our attention was first directed to that which had evidently caused the death of the patient: we found a large abscess in the back of the leg, occupying the space between the heel and the projection of the calf. We found the two lancet points still sticking in the inner side of the tibia, and surrounded by pus and the inflamed periosteum.

"We found the joints of the knee, elbow, and wrist of the left side filled with pus, and their synovial membrane highly inflamed. The cartilages, as often happens, did not participate in the affection.

"We did not expect to find any serious lesion of the intestinal canal, as no very striking symptom, connected with that part, had appeared; but the hemorrhage from the anus, and the pain which took place, indicated that it could not be altogether healthy; in fact the mucous membrane towards the termination of the small intestine, was reddened by the injection and development of its veins; this redness extended in a slighter degree as far as the jejunum. At the junction of the ileum with the cœcum were a dozen small superficial ulcerations: the largest were three lines long, and two wide; that they were recent, was proved by the corresponding mesenteric glands being but little swelled, and not changed in structure. The large intestine, pharnyx, œsophagus and stomach presented nothing worthy of notice.

"One remarkable phenemenon was the decided putridity of the blood. It was every where fluid, and had given out a large quantity of gas, which distended the heart and great vessels, and had caused sub-peritoneal emphysema of the stomach and intestines. The lungs were healthy, though somewhat loaded at the back part; the smaller bronchial divisions were red, but the trachea was healthy.

"The nervous system presented nothing remarkable; there was an inconsiderable quantity of reddish serum at the base of the cranium, and in the vertebral canal. The veins of the brain and spinal cord were filled with red and fluid blood. The ganglia of the sympathetic nerve were in their natural state. The little wounds and the scar on the hand were examined attentively, and all present were struck by the analogy of the wounds with bites, and of the scar with the effects of recent cautery.

"It results from this history, that a disease presenting all the character of rabies, ceased on the introduction of a pint of warm water into the veins; the patient survived this introduction eight days; that it did not appear to have produced any accident; and that death was caused by a local disease, unconnected with hydrophobia and the new mode of treatment.

"The hope of curing rabies by injecting water into the veins, already resting on some experiments on animals, hence acquires additional probability. It may even be possible, as some of my learned associates at the Hotel-Dieu have suggested, that the same measure may prove useful in certain extreme cases, in which the common resources of medicine are inadequate."—*Anderson's Quarterly Journal.*

On some recent Discoveries relative to the Nervous System. By M. Magendie.—M. Magendie offers some proofs and illustrations of Mr. Charles Bell's beautiful investigations, on the distinction between the nerves subservient to sensation and motion. An individual had lost the use of his two arms for several years, but he had retained a lively sensibility in these parts. He died, and on examining his body, the posterior roots of the brachial nerves (as they issue from the spine) were perfectly sound, while the anterior roots were evidently altered, had lost their medullary substance, and were reduced to their membranous sheath. The nerves give sensibility or mobility to our organs, only because they are connected with the spinal marrow; whenever they are insulated by a wound, or any other cause, the part to which they go becomes motionless and insensible. It was, therefore, of consequence to know if the spinal marrow was not itself divided into two halves, the one destended to motion, the other to feeling. M. Magendie has discovered that the spinal marrow is formed, as it were, of two cords juxta-posited, one of which is endowed with an exquisite sensibility, while the other is, so to speak, a stranger to the property, and appears to be reserved for motion. Since it is shown by the fine experiments of Legallois, that all the other organs, without exception, derive from the spinal marrow their sensibility and mobility, we are led to the remarkable conclusion, that we must cease to seek for any one point in the whole body where the sensibility and mobility are compounded together. Hence it seemed very probable that, in persons who lose the power of moving, while they retain their sensibility, and that reciprocally in those who lose sensibility retaining mobility, there is a disease in the one case of the motive cord of the spinal marrow, and in the other of the sensitive. A lunatic of the hospital of Charenton, had lost, for seven years, the faculty of motion in the whole body, although he retained its sensibility. He died last month. M. Royer Collard, physician to the establishment, made the spinal marrow be examined with the greatest care, and found, in fact, a very marked alteration in the whole motive portion of the spinal marrow, while the portion where sensibility resides was perfectly sound. The centre of the spinal marrow is devoid of sensibility: on touching it, no movements are excited in the body. It is on the surface of this organ, that its properties are developed under the double relation of movement and feeling. Those who think that the electric fluid circulates habitually in our nervous system, may derive from this fact a new argument in favour of their opinion; for electricity diffuses itself, as is known, on the surface of the bodies which it pervades. It is unnecessary to remark, that the facts above related should have a great influence in the treatment of different palsies. When the cerebral hemispheres of any animal are put out of condition for acting, the animal runs straight forward, with singular rapidity, as if it were pursued. We might say, that an irresistible force presses and precipitates it. If, on the other hand, the action of the cerebellum be stopped, the movements take an entirely opposite direction. The animal draws back; and it is a remarkable phenomenon to see a bird, for example, whose cerebellum has been slightly touched, for whole days make no attempt to walk, swim, or fly, unless it be backwards. It would seem, therefore, to result from these experiments, that an animal in the ordinary state of health, is placed between two forces, which make an equilibrium, of which one would push it in advance, while the other would push it backwards. Volition would have the power of disposing at its option of these two forces.

A disease of the horse, little known, was proper to verify the precision of these results. Veterinary surgeons call this disease *immobility;* and, in fact, when it is wished to make the animal seized with it, fall back, whatever effort be employed, and whatever means be taken, it stands motionless. The forward movements are, on the contrary, easy, and seem sometimes to occur even without the participation of the will. If the inference which I have drawn be exact, the disease ought to consist in a physical alteration of the cerebrum, or in some obstruction of the action of this organ. I caused to be examined, last month, two horses attacked with immobility, and the conjecture has been completely verified. In both the cerebrum was visibly altered; the cerebellum, on the contrary, was unaffected. It appears, then, to be demonstrated, that the two opposite motive forces of the cerebrum and cerebellum exist in animals, and that, in certain cases, they may be withdrawn from the influence of the will. M. Magendie relates a case of a man somewhat similarly affected, who was cured by some grains of sulphate of quinina.—*Ann. de Chim. et de Phys.* xxiii. 429.—*Lon. Jour. of Science.*

Influence of the Eighth Pair of Nerves on Digestion. (*These soutenue a la Faculté de Médecine de Paris, par —— Vavasseur,* 1823.)—M. Vavasseur, in the course of a set of experiments, by M. M. Breschet, Mylne Edwards, and himself, on the influence of the nerves on the different functions, has had occasion to repeat the important researches of Messrs. Brodie, W. Philip, and Broughton, concerning the effects of the division of the pneumo-gastric nerves on digestion; and the experience of the French physiologists has amply confirmed, and even extended the conclusions drawn by those of London. As the results at which they have arrived are of vast importance in respect to the physiology of the nervous system and of digestion, we shall make no apology for detailing them, although they have all been some time before the public in the works of the British experimenters. 1. They first found, that when the conjoined pneumo-gastric and sympathetic nerves were simply divided in the neck of a dog seven hours after eating, the food was far less altered by digestion than in another animal fed in the same manner, and killed after the same interval, but not operated upon like the former. "The food, however, was somewhat pulpy towards the pylorus, and digestion had evidently begun, as the lacteals contained chyle." 2. They next observed, that when a portion, two inches and a half long, was removed from the conjoined nerves on each side of the neck in a dog newly fed, the alimentary matter, ten hours afterwards, was hardly altered, had a clean, very dry appearance, and was merely besmeared on its surface with a thin coating of chyme. In another dog, treated precisely in the same manner, except that the nerves were simply divided, digestion had advanced very far. 3. Magendie had imagined, that the cause of digestion being impaired or prevented by the section of the pneumo-gastric nerves in the neck, might be the injury done to the respiration by the division of the pulmonary nerves; because he found that the food underwent the usual changes, if the section of the nerves was performed lower down than the giving off of the pulmonary plexus. M. Vavasseur and his coadjutors have shown this supposition to be groundless; for the changes produced by digestion were completely prevented, by tying a double ligature at the bottom of the gullet and dividing it between. 4. Wilson Philip having observed, that the destruction of the lower part of the spinal cord impeded digestion, was led to infer that it is diminished by any cause which weakens the nervous energy. This conclusion has been satisfactorily confirmed by the Parisian experimenters, not only by the repetition of Philip's experiment, but likewise by the effects of injuries done to the brain, either through external force or by internal agents. When a portion of each hemisphere of the brain was removed in a dog newly fed, the food in eight hours was less altered than after the simple section of the pneumo-gastric nerves. And when an animal newly fed was plunged into a state of stupor by the injection of opium into the veins, the food, though considerably changed in eight hours, was much less altered than in another animal not brought under the influence of opium. "We see then," they conclude, "that whenever the intensity of the nervous influence is diminished, digestion is sensibly retarded. Whether the intensity be lessened by destroying a part of the brain or spine, or by bringing the system under the action of stupifying drugs, or by preventing the transmission of the nervous fluid along the nerves which conduct it to the stomach, the same results are uniformly obtained." 5. The last object of their attention was the alleged power of the galvanic fluid to effect the same changes as the nervous influence does on the food in the stomach. They first experimented on the horse. In one, immediately after it had fed on oats, the nerves were divided on both sides of the neck, and a portion removed two inches and a half long. In another this was done on one side only, while the opposite nerve was simply divided, and the lower end detached from its connexions, surrounded with a plate of lead, and connected with one side of a battery of 50 plates. The other side of the battery was then connected to another plate of lead, which was placed in the cavity of the abdomen upon the stomach; and the experimenters satisfied themselves, that the galvanic stream was kept up continuously by the frequent slight contractions of the *panniculus carnosus.* The three animals were killed seven hours after they had been fed. In that which was not operated on at all, the stomach contained a grayish mucilaginous fluid, without any grains; the small intestines a yellow mucosity; the cœcum a large quantity of altered and unaltered grains. In the animal which was galvanized, the stomach contained a small quantity of fluid and some altered grains; and the rest had passed entirely into the cœcum, where the grains were partly soft and chymous, and partly collected in balls. In that whose nerves were divided, but which was not galvanized, the stomach contained a large quantity of clear, yellow liquid, and three times as many grains as in the second; and of these the greater part was unaltered, the remainder half digested; the cœcum contained merely a watery fluid and shreds of chaff, manifestly the residue of a former digestion. It is evident, that, in the last animal, none of the oats on which it had fed immediately before the operation had passed the pylorus; while the whole aliment in the unoperated animal, and at least two-thirds of it in that which was galvanized, had been transmitted into the intestines. The same experiment was repeated with similar results on the dog; and, consequently, we may now consider the statement first made by Wilson Philip, regarding the effect of galvanism in carrying on digestion, as firmly established. Of course, however, the establishment of this fact by no means establishes the inference he proposes to draw from it as to the identity of galvanic electricity with the nervous fluid.—*Edin. Med. Jour.*

On the Mortality, &c. of Paris.—M. Villermé has lately read a paper to the *Académie Royale de Médecine,* from which it would appear that, notwithstanding all the horrors of our smoky atmosphere, London enjoys a greater degree of salubrity than Paris, so much boasted of by its inhabitants for the clearness of its atmosphere. The mortality of Paris is at present about one in 32 6-20ths; in the seventeenth century it was one in 25 or 26; whilst in the fourteenth, it was as high as one in 16 or 17.

Formerly, as in London, the number of deaths considerably exceeded that of the births; but now the contrary is the case. There are more boys born dead than girls; and yet, during the three first months after birth, more boys die than girls.

The month of June presents the *maximum* of conceptions, and the *minimum* of births; in March and April the greatest number of births occur; and after these in February and January.

The poor and rich occupy in Paris the extremes of the scale of mortality. In proof of this M. Villermé places the twelfth *arrondissement* of the city, where there are the most paupers, in opposition to the first, where there are the most rich; the result of his calculation is, that it would not be far from the truth to say, that of a given number of inhabitants, fifty die in the first *arrondissement*, and one hundred in the twelfth.

The annual proportion of births in the first *arrondissement* is about one in 32. and about one in 26 in the twelfth, and yet the proportion of children under five years of age is not greater in the latter—a proof that the poor produce more children than the rich, but take less care of them.

M. Villermé passes in review, year by year, the great events, political, moral, physical, &c., which have borne upon the people of Paris; from which he draws a conclusion to which almost all writers on political economy have arrived, that whenever a people are in any way suffering, the number of deaths augment, that of births diminishes, and the mean duration of life becomes shorter. Whenever, on the contrary, the people are happy, the number of deaths diminishes, that of births augments, and the mean duration of life increases.—*Revue Médicale, Mars* 1824.—*Lond. Med. Repos.*

On the Employment of the Sulphate of Quinine in a large dose in the Intermittent Fevers of Italy. By M. Martinet.—From the observations of this gentleman, he has been led to the following conclusions:—1st. That the sulphate of quinine, administered in the quantity of from twelve to eighteen grains, in Italy, in quotidian and quartan fevers, has not stopped the paroxysm. 2d. That this medicine, on the contrary, when given to the extent of twenty or twenty-four grains, has completely succeeded. 3d. That its use, in this latter dose even, has never been followed by any unpleasant effect on the abdominal viscera, and that the patients have been thoroughly restored to health.—*Revue Médicale, Mars*, 1824.—*Ibid*

Arrest of Salivation.—Surgeon Sommé of Antwerp asserts that mercurial salivation may be speedily arrested by the use of a gargle composed of one ounce of the superacetate of lead in two pounds of water. This gargle has the disadvantage of blackening the teeth, but is said to quickly heal those ulcerations of the mouth, which prove intractable under other means. In the ulcers of the tonsils and palate which occasionally follow mercurial courses, Mr. Sommé touches the parts with a hair pencil charged with the pure liquid of the acetate of lead.—*Archives Generales de Medecine.—Johnson's Jour.*

Successful Employment of Iodine in Scirrhus of the Uterus. By Dr. Klaproth.—A female, aged 25 years, was attacked with scrofula during her infancy, of which, however, she was freed at the period of puberty, which took place at the age of thirteen: at this period her menstruation was regular, until seventeen, when she became pregnant: the delivery was difficult, the forceps being required to accomplish it. At twenty-two years of age she miscarried, and sustained a considerable loss of blood; four months afterwards the same thing happened. From this period the catamenia ceased, and in their place leucorrhœa, at first mild, supervened. Two years afterwards, this was accompanied with pain in the groins and heat about the sexual parts. Six weeks thus passed over without any means being employed; but at the end of this time they applied to M. Klaproth. On examination, *per vaginum*, he discovered an induration at the orifice of the uterus, accompanied with sensibility and heat. He ordered the tincture of iodine internally, in the dose of eight drops three times a day, and, externally, frictions with an ointment composed of digitalis, belladonna, and hyoscyamus. After the patient had reached the dose of twenty-eight drops of the tincture, the menstruation became regular, the leucorrhœa decreased considerably, and the heat in the sexual parts gradually diminished: at this period the supervention of nervous symptoms and considerable debility rendered it necessary that the medicine should be suspended, but it was soon afterwards resumed. At the expiration of some time, numbness and cramp again indicated its suspension. The tincture was, however, prescribed for several months, but often suspended, and as often resumed; when the menstruation became regular, the induration at the crevix uteri almost wholly disappeared, the pain vanished, and the leucorrhœa vanished also.—*Revue Médicale, Mars* 1824.

NOTICE TO CORRESPONDENTS.

A Review of SMYTH on Typhus Fever prepared for this number, has been excluded for want of room. It shall appear in our next.

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Art. I. Some *general remarks on the use of the* Stethoscope, *as an aid in forming a correct diagnosis of Diseases of the Lungs, together with some observations on the symptom called by M. Laennec, Pectoriloquy.* By John Bell, M.D. one of the Physicians of the New-York City Dispensary.

> "Nostra enim *ætas incuriosa* quoque *suorum;* et si quid novi ab homine coævo in medio ponitur, risu ut plurimum ineptisque cavallationibus excipiunt: quippe facilius est aspernari quam experiri."—Laennec.

The diagnosis of the diseases of the organs contained in the chest is peculiarly difficult, not only from the nature of their structure and the form of the parts enveloping them, but from the striking similarity of the symptoms they exhibit when in a state of disease, whether arising from a derangement of function, or an organic change. Enclosed in a firm and almost unyielding bony case, (a security which their importance to the animal economy seems to require,) they are, in a great measure, removed from our observation, and exhibit but few of those changes, either to the eye or the touch, from which our diagnosis is usually formed.

From this circumstance we have been obliged, in most cases, to look to the good or bad performance of the functions of these organs, for our opinions with regard to their continuance in or variation from a healthy state; and, as is daily obvious to every practical man, no decisive opinion can be correctly drawn from such meagre data. For often a chronic inflammation of the mucous membrane of the bronchiæ is mistaken for the early stage of a pulmonary consumption, and *vice versa,* a confirmed phthisis for a harmless catarrh; and an extensive organic disease of the heart, deranging its structure, and marching gradually but undeviatingly on to a fatal termination, unchecked by the most vigorous efforts of medicine, presents the same symptoms to a common observer as those produced by the nervous irritation arising from various slight causes, which the most simple remedies often effectually remove. "O quantum difficile est dignoscere morbos pulmonum!"* From this view of the matter, it should seem that we ought to look with complacency upon any one who attempts to cast a single ray of light upon this dark subject, and receive with gratitude any invention which promises to aid us, instead of sneering at every new discovery, and regarding every recent improvement as an unwarrantable innovation.

The first considerable improvement upon the older physicians in the diagnosis of the diseases of the heart and lungs was made some eighty years since by Avenbrugger, a German physician. This was either never very widely circulated, or if once known, was forgotten, till it was revived a few years since by the celebrated Corvisart, whose attention was first turned to this subject by personally suffering from an organic disease of the heart, which eventually proved fatal: not, however, till he had written the best treatise upon the diseases of that organ which has ever appeared. The German's improvement consisted in what he called *percussion*—striking a moderately hard blow upon the chest with the ends of the fingers, and then judging, by the sound, of the state of its contents; the healthy lungs giving a hollow sound, and the diseased a flat, dull one, like a blow upon the muscular part of the thigh. The advantages to be derived from this mode of investigation are very considerable, and with a due degree of caution, and with a reasonable portion of practice, will be found to aid much in forming a correct diagnosis of this numerous and obscure class of diseases. Few individuals have profited by this improvement in our country, the great mass of the profession remaining ignorant or indifferent with regard to it; while in many of the French hospitals it is as much a part of the regular routine of the first examination of a patient, where thoracic disease is apprehended, as the feeling the pulse, looking at the tongue, or an inquiry into the state of the bowels.

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* Baglivi.

In cases of ossification of the semilunar valves of the aorta, the passage of the blood from the left ventricle into the aorta, or perhaps its regurgitation from the artery into the ventricle, produces a hissing sound, which may be heard oftentimes very distinctly at the distance of several feet. The observation of this circumstance principally led to the application of the ear directly to the surface of the chest. M. Laennec, a French physician, a pupil of Corvisart, and one of the ablest and most learned individuals of his profession, improved upon this discovery by applying a hollow cylinder of wood between the observer's ear and the patient's chest. This simple instrument, in his hands, produces astonishing results, as certain and determinate as the introduction of the finger or probe into fistulous openings or diseased cavities communicating externally. His situation as chief physician to an extensive hospital, has brought under his observation a great number of cases of diseases of the chest; has given him daily opportunities of applying his instrument; and, what is of infinitely more importance to his discovery, has enabled him to test the accuracy of his diagnosis by a *post mortem* examination, a course in that country perfectly consonant with public opinion and common usage. Indeed, by the help of this simple wooden cylinder, his diagnosis is so minutely accurate in most cases, as to astonish an observer who is unacquainted with the mode in which he ascertains the data necessary to form his judgment. A striking instance of this skill was exhibited in a patient who was suffering from pulmonary consumption. Upon examination, he stated, amongst other particulars, and the remark was entered in the clinical record of the hospital, that this patient had a small ulcerous cavity in the left lung, directly under the clavicle. After the patient's death, the thorax was opened, the lungs drawn out and cut into, but no cavity was found : here seemed to be a failure, but upon a more close examination of the surface of the lung, a small depression was observed, surrounded by a rough edge, and communicating by a minute opening with one of the bronchiæ. Upon looking at the inner surface of the chest, a corresponding depression was noticed, with a similar rough border, showing that there had been an adhesion between the pleura of the lungs and that of the ribs, constituting, in this way, a considerable cavity, probably once filled with a fluid matter ; and that, in forcibly removing the lung, this adhesion was broken up, and of course the cavity was destroyed, till the parts were again placed in apposition.

A great advantage, arising from the mode of studying these diseases, directly resulting from the use of his instrument, and recommended by him, is, that a constant reference is had to their anatomical character. Every organic change is noticed, by beginning with thes lightest irregularity of function, and gradually going on to those important lesions which lead to a fatal termination. How much superior is this mode of tracing the whole course of anatomical derangement to that pursued by Morgagni, Bonetus, Baillie, and other writers on morbid anatomy, who give us *isolated* descriptions of the diseased parts as they existed at the time of the patient's decease !

Every mode of treatment, where the symptoms alone are regarded, and where the pathological anatomy is not always kept in constant view, must be more or less empirical; and it is clearly the case that the success of our treatment, in most cases, corresponds in no inconsiderable degree with our knowledge of their morbid anatomy.

M. Laennec's instrument, (which he has named *Stethoscope*,*) and of which I shall soon give a brief description, is used—

1st. In examining the voice. By this means are detected cavities in the lungs, dilatation of the bronchiæ, and collections of fluids between the pleura of the lungs and that of the chest.

2d. In examining the respiration. In this way, the existence of peripneumony, pleurisy, emphysema, hydrothorax, pneumo-thorax, &c. is ascertained.

3d. In attending to the rattle (*rale*) produced by the passage of the air through mucus or other fluids in the bronchiæ. In this manner are discovered important symptoms in pulmonary phthisis, œdema, pulmonary catarrh, congestion of the lungs, &c.

4th. In investigating the state of the circulation—including under this head derangement of the functions of the heart, and change of structure: as dilatation of the ventricles and auricles, softening of their muscular substance, atrophy, ossification, carditis, aneurism of the aorta, &c.

The use of the stethoscope in all the varieties of thoracic diseases, and in all the stages of each variety, can be learned only in hospitals, or where it can be applied to a large number of patients so situated as to give the learner an opportunity of ascertaining the accuracy or inaccuracy of his diagnosis by actual dissection in those cases in which the disease proves fatal. For although impressions received by the organ of hearing are retained as long and with as much exactness as those transmitted by the other senses, yet it is extremely difficult to convey by words alone such an idea of a sound as will enable a person to recognise it when heard. One state of disease, however, the existence of which may be ascertained by the use of the cylinder, may be considered as an exception to this general remark. It is proposed to offer a few observations on this state; previous to which, however, it will perhaps be advisable to trace the morbid change from its commencement to that stage in which the peculiar symptom to be spoken of is most strongly marked.

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* From ϛηθοσ *the chest*, and σκοπεω *I explore.*

In the lungs of adults, and often of children, who die of other diseases than those of the chest, small grayish white bodies are sometimes found interspersed in the substance of the lungs, varying in size from that of a pin's head to that of a pea. These are tubercles in their quiescent state, and for ought we know, are formed with the lungs in the uterus; at any rate, a disposition to their secretion and developement seems to be hereditary, and to descend from father to son in the same way as bodily or mental peculiarities. Under particular circumstances, and with particular exciting causes, these little grains gradually enlarge, those in the immediate neighbourhood of each other join, and thus proceed slowly until they acquire a considerable size. At the same time, the masses formed by this gradual development and by additions of other masses, assume a caseous or cheesy consistence, and an opaque white colour. In this state M. Laennec has named them crude tubercles. This state continues for a longer or shorter time, and is succeeded by a sort of hardening of the substance of the lungs directly encircling the tubercle, rendering it impervious to the air, and giving it somewhat the appearance and consistence of liver. Shortly after, the centre of the cheesy matter of these crude tubercles slowly softens, becomes liquid, and is evacuated into one of the bronchiæ, thus forming an empty sac with a fistulous opening. The walls of this sac put on somewhat the appearance of a surface which secretes pus. This, however, is not the generally received opinion of the most enlightened physicians of the present day: they suppose the matter, not evacuated in consequence of the liquefaction of the tubercles, to be almost wholly secreted by the mucous coat of the bronchiæ, excited to take on this peculiar action by the irritation of the morbid change in its immediate vicinity.

The formation, enlargement, and final evacuation of these tubercles, is not supposed to be the effect of common inflammation, but an action of a peculiar kind, more nearly resembling the diseased action in scrofula. The reasons for this belief are, that inflammations of both chronic and acute kinds occur daily without being followed by any such results, and that this peculiar development comes on in cases where it cannot be referred to any preceding inflammation. A still stronger reason is, that when we find a great number of these tubercles in the lungs, they may usually be discovered in various other parts of the body; as in the mesentery, and in many of the glands. In addition to this, the vessels of the parts in contact with the tubercles bear no marks of enlargement or increased action, and the time requisite for their development is comparatively great, and the process is usually attended with but slight pain, and in many cases by none at all.

When the collections of tuberculous matter are formed, have become softened, and begin to be discharged, the case is considered to be confirmed phthisis. The existence, then, of these cavities, may be considered as a pathognomonic symptom of this nearly incurable disease. The mode pursued by M. Laennec with the aid of his instrument, will enable us to decide with great confidence and accuracy whether it exists or not. The symptom upon which this important decision is predicated, he has called *pectoriloquy*. This, I consider as the only useful application of his instrument which can ever become general in diseases of the lungs. The reasons for this opinion will be given after some remarks have been made upon the instrument and its mode of application. Every one has noticed, that upon applying the ear to one end of a stick of timber, a slight blow, or even the scratch of a pin may be heard with great distinctness at the other. It is upon this principle that the stethoscope acts. It consists of a simple wooden cylinder, of a light, loose texture, about a foot in length, and one and a half inch in diameter, with a considerable concavity* at one end, and an opening through it of nearly half an inch diameter. Upon applying this concave end to the chest of a patient, and the other to the ear of the observer, the breathing is distinctly heard in those portions of the lungs permeable to the air.

Various and important results are acquired by an examination of the respiration by this method; but since the symptom to be spoken of depends chiefly upon the voice, it will be necessary to drop this interesting subject, and recur to the one first proposed.

When the stethoscope is applied to the healthy chest, and the person speaks, a slight tremulous feeling or vibration is conveyed to the ear, while at the same time the sound is per-

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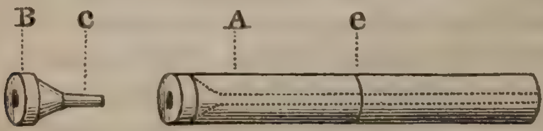
* In the examination of the voice and the heart, this concavity is filled up by a perforated piece of wood, closely adapted to it.

A correct idea of the instrument may be formed by a reference to the annexed engraving.



A, the instrument complete; the dotted lines showing the concavity when the end is removed, and the opening through the tube.—e, the point where the instrument is unscrewed for the purpose of rendering it more portable. B, the end removed, in order to use it in examining the respiration.—c, a small brass tube, which serves to retain the end in its place, while at the same time it continues the opening through the cylinder.

The stethescope has been used by Dr. Kergaradec to ascertain by the beating of the heart, whether the fœtus *in utero* was alive or not.

Dr. Lisfranc likewise, of Paris, has employed it to detect the existence of crepitation between the ends of a fractured bone.

ceived equally well by either ear, or perhaps rather stronger by the one not in contact with the instrument; but raise the concave end, and place it over the trachea, and let the patient again speak, and a sound is perceived almost precisely similar to that caused by a person's applying his mouth to the concave end, and speaking through it.* What produces this difference of sound? Unquestionably the cavity underneath; from which the conclusion naturally follows, that when this peculiar resonance of voice is heard, it is caused by a cavity opposite the end of the instrument. To this symptom, as was before observed, the name Pectoriloquy has been given, from *pectus* and *loquor* speaking from the chest, a symptom never absent in a confirmed case of tubercular phthisis.

Should the question be asked, of what use is this knowledge, since it comes only when the disease has reached such a stage as affords little or no hope of recovery? the answer is, that as we should no longer deceive the patient by fallacious hopes, his attention would be turned to those last and necessary duties, which every reflecting man would consider himself culpable in delaying, and that we should abstain from administering active remedies, which are invariably observed to hasten, rather than delay, the fatal event.

The description of the mode, pursued by M. Laennec in ascertaining the existence of this symptom, will be imperfect, unless we follow him through the whole course of the first and succeeding examinations of a patient suffering under some as yet unknown disorder of the chest. Suppose the individual then, lying on the back, his breast uncovered; he commences by striking gently on the clavicles with the ends of his fingers, which are all drawn together toward a point, carefully noting the sound produced, and gradually continuing this percussion over nearly all the anterior surface of the thorax; the patient is then placed in a sitting posture, and leans forward with the arms crossed before, the same course is pursued on the posterior surface of the chest. When any deviation from the natural sound is perceived, in any part, by this percussion, the stethoscope is applied, first to examine the respiration, and next the sound of the voice. The heart, when it is supposed the disease is there seated, undergoes a separate and careful examination. During the examination of the respiration, the patient is desired to breathe a little more frequently and fully than ordinary, as this renders more sensible any slight deviation from the healthy sound. One end of the instrument should be accurately applied to the chest of the patient, and the other to the ear of the observer, who should be so placed as to be able to apply it without being obliged to stand in a constrained position. The intervention of clothing does not sensibly diminish the sound, provided there is no friction between it and the end of the instrument, a circumstance very liable to occur where the clothing is of flannel or silk. Indeed a fold or two of linen often enables us to apply the instrument with more accuracy to the inequalities of the chest, so often produced by the emaciation attendant on diseases of the thoracic viscera. Neither fat nor anasarca seem to impede the transmission of sound. The patient's room should be still and quiet; if not perfectly so, the observer may stop up the ear not in use.

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* The experiment may be satisfactorily performed, by simply rolling up a quire of paper into a cylindrical form, and making use of it as a substitute for the stethoscope.

Proceeding in this way, it is easy to ascertain the existence of this peculiar symptom (pectoriloquy) upon the first trial, if the learner has firmly fixed in his mind the sound perceived when the instrument is applied over the trachea; or, having it once pointed out to him, he will not hesitate, upon its second appearance, to detect it instantly. There are other diseased states of the lungs ascertained by the use of the stethoscope, of perhaps more practical importance than this; but a knowledge of them requires a long and attentive observation, and frequent dissections after death.

Pectoriloquy, though it is usually the case, does not necessarily indicate a fatal result; and that ulcers in the lungs do sometimes heal, is a fact now clearly established, although unfortunately of rare, very rare occurrence. The rationalé of this process was never clearly understood till recently, and is in effect as follows:—The diseased cavity is first formed by the evacuation of the matter formerly contained in it: the extremities of the blood-vessels, which would otherwise open into it, are closed up by a membranous covering, which lines the whole interior of the sac, excepting the points where the bronchiæ enter. This membrane was formerly supposed to secrete the pus, which is usually evacuated. This, however, is extremely doubtful, since it has been observed, that oftentimes a patient who has expectorated immense quantities, has been found, upon examination after death, to have but a very small cavity in the substance of the lungs; and *vice versa*, those who were found to possess a cavity formed by the disorganization of one whole lung, have discharged but little matter for some time previous to a fatal termination of the disease. These two facts seem to be conclusive with regard to the opinion before brought forward, that the pus is secreted for the most part by the mucous membrane of the bronchiæ in the vicinity of the diseased spot. The tuberculous matter being evacuated, and the lining membrane being fully formed, the sides of the cavity gradually approximate, and finally adhere, thus putting a stop to the disease, till more tubercles enlarge, soften, and are discharged: and the same course may be pursued until some great cavity is formed, when the constitution sinks under its irritation.

In a female patient I saw under M. Laennec's care, there were obvious symptoms of phthisis and marked pectoriloquy. This continued for several weeks, when it gradually disappeared, and the woman was dismissed cured. About four weeks after, she returned with an acute disease of the bowels, and soon after died. Upon examination, a cicatrix of a cartilaginous consistence, formed by the closure of the two sides of the abscess, was distinctly observable just opposite the point where the pectoriloquy was heard in the first instance.

A somewhat similar case occurred the last winter in my own practice. A labouring man in Market-street, had a troublesome cough of four months standing, subsequent to a slight pleurisy. Previous to my seeing him, he had taken mercury, till a gentle salivation was produced : this was kept up for ten days, and was just disappearing at the period of my first visit. I found him extremely emaciated, and perpetually harassed by a cough, followed by a daily expectoration of matter to the amount of nearly a pint, presenting in a marked degree the appearance of true pus. His pulse was small, and varied from 90 to 100 in a minute; he had copious night sweats, and a regular hectic. Upon application of the stethoscope, pectoriloquy was distinctly perceptible in a small spot about an inch and a half below the middle of the left clavicle. The mercury was wholly discontinued, and a course of tonics and wine adopted, with sulphuric acid, to check the night sweats, and a blister to the chest, kept open with the savine ointment. In about ten days, his appetite, which he had lost from the time of commencing the mercury, returned; his night sweats almost wholly disappeared ; his pulse continued the same. The pectoriloquy was still evident; and though the expectoration was lessened, the cough remained as troublesome as ever. For the next fortnight he obviously though slowly improved, and I found his pulse several times below 80. His expectoration was less, and his cough but little troublesome, except upon first waking in the morning. A portion of this favourable change I attributed to the removal of a stove, which, used for the purposes of cooking, often produced in the small room in which he was confined, a high degree of temperature, oftentimes immediately followed by the other extreme. I applied the stethoscope at this time, and was surprised to find the pectoriloquy had disappeared. I attributed this change to the opening between the bronchiæ and the tuberculous cavity being filled by pus, thus preventing the entrance of the air into the cavity, a circumstance which not unfrequently occurs. Upon applying the instrument, however, for several successive days, I was agreeably disappointed in finding the pectoriloquy had completely disappeared. Under a continuation of the remedies just mentioned, his health gradually improved ;

and as the warm weather of spring came on, his cough left him, and he returned to his business. He still, however, was troubled with shortness of breath upon any sudden exertion; and upon applying the concave end of the stethoscope to the upper lobe of the left lung, the respiratory murmur was found wanting in that part of the organ surrounding the spot where the pectoriloquy was formerly perceptible.

Though from the nature of this case, absolute certainty cannot be attained, we have a presumption next to it in point of strength, that a cavity did exist, and was afterwards closed up.

Numerous cases might be easily copied from notes of M. Laennec's hospital practice, but their strong resemblance would render them uninteresting; and it may perhaps be sufficient to observe, that from several months' attentive observation of his diagnosis, and from notes, taken at the bed-side, of his opinions of the state of the lungs in each case where the symptom just spoken of occurred, and all tested by dissection where they proved fatal, no error, even of the minutest kind, was detected.

The use of the stethoscope by no means obviates the necessity of close attention to the ordinary symptoms. Auscultation, mediate and immediate, percussion, mensuration of the chest, attention to the mode in which the enclosed organs perform their functions, and close observation of their secretions, all, as experience shows, furnish us with data too meagre to found a rational and successful practice upon. This affection forms in some measure an exception to the remark made in the commencement of this paper, that our skill in treating diseases, usually keeps pace with our knowledge of their pathology. The morbid anatomy of the lungs has, within a few years, been closely investigated; but the multiplied cases and dissections of Bayle and Laennec, to say nothing of those recorded in England and our own country, have produced scarcely a perceptible variation in the treatment of this class of diseases; and the physicians of the present day, are equally successful as those of a century since.

ART. II. AN *Inquiry into the Nature and Causes of* INTERMITTENT FEVERS. By FELIX PASCALIS, M. D. &c. of New-York.

I HAVE lately read much about the *sulphate of quinine*, and of its efficacy in curing intermittent fevers, as being superior to that of the Peruvian bark from which it is extracted; and have been surprised at the inconsistency of an opinion roundly accredited from a *postulatum!* For if Peruvian bark still remain a failing and doubtful remedy of simple intermittents, if it cannot guard us against a relapse of the same, it follows that its curative property, although the best we know, is yet insufficient, and the more so, as we cannot account for its failures.

Now, what is the sulphate of quinine? is it not an altered or an improved form of the original remedy? We should imagine that if *altered*, it is only by being divested of component parts left in the vegetable substance; and if *improved*, it is by the condensed and saline form of the bitter principle: in neither case can we find much reason to be benefited? The fact is, there is error or misnomer somewhere. Let us suppose, indeed, that with a few doses of cinchona, or with a few grains of sulphate of quinine, we could stop the periodical return of a paroxysm of fever, which at no long distance of time may recur again and again; is it not evident that the cause of the disease has remained untouched, and that nothing has been gained, but on the contrary, that it has probably become more deeply rooted in the system?

Thus we see, also, that we are trained by long established doctrines and rules of practice to mistakes about the nature and the diagnosis of this fever, and that we torture our art and minds to find out *specifics* against a temporary symptom, neglecting to investigate the condition of the nerves, or of the blood, which can thus disturb or waste away the vital powers, and shake violently the whole frame at the very foundation and sources of life. It is with a wish of retracing our steps, and taking a more correct view or theory of the subject, which will consequently lead to a more successful practice, that I invite the attention of the reader to some remarkable circumstances, and which are as yet unaccounted for in the history of intermittent fever.

1. It is contracted in moist, low, marshy, or drowned lands; in long-continued rainy seasons in spring or autumn; also occasionally in the humid exhalations from meadows, or other overflown situations. In all parts of the world, nations can designate some districts in their territories, where, from similar causes, intermittent fever is endemic. Some are of opinion that cold must, in some degree, be added to moisture. This circumstance I do not think absolutely necessary. Intermittent fever is a disease of all seasons and climates; and it is well known, that under a warm or moderate temperature, humid exhalations frequently give to intermittent fever a complicated or malignant character, and also affect various sorts of cattle with some kind of disease. It is, however, always the case, that moisture, cold or warm, is required, or is evidently predominating in any atmospheric or local constitution favourable to an epidemic of fever and ague; and yet we will show hereafter that something else besides moisture is the cause of intermittent fever.

2. We are all liable to take it, without any particular predisposition from age, sex, or from constitution. It has been supposed, that persons of delicate or irritable nerves, who are more under the influence of moral and physical impressions, are more subject to it. Be this as it may, it would not prove a peculiar predisposition, as nervous constitutions have a greater susceptibility not only to this, but to all other complaints.

3. The types of intermittent fever are *quotidian*, *tertian*. and *quartan*. These have been subdivided into *double tertian* and *quartan*; again, into triple *tertian*, *quintan*, and *sextan*. The last are perhaps more imaginary than real. Who could tell, however, all the varieties of type which places, habits, ages, and seasons can produce? Two things on this head are to be remarked: first, it is the progress of a quotidian to a quar-

tan, if the disease is aggravating; and its inverse march from a quartan to a quotidian, when it is verging to a cure. Thus protracted periods are bad symptoms, and the lessened are favourable signs. The other circumstance is, that in the interval of paroxysms of chill and fever, &c., no particular morbid affection seems to remain in the system, which is then wholly restored to its healthy functions.

4. Three different and well marked conditions or stages take place in each paroxysm of intermittent fever. The first is ushered in by a sense of lassitude, gaping, headache, or giddiness; then erratic pains in the limbs, with strong, and sometimes *horrid* chills, and sick stomach or vomiting, with an excessively laborious respiration, and a very small pulse; the whole surface of the body is discoloured or livid, and the skin becomes *anserine*, as the French call it, that is, goose-skin. The second stage, which the ancients called that of the *concoction*, is contrasted with the former by burning heat and redness of the body, full pulse, quick, forced, and anhelous respiration, and a profuse perspiration. The redness of the face and of the skin in this stage of the paroxysm, is strikingly similar to that which occurs in the yellow fever. At last the great uneasiness of the patient diminishes, and is succeeded by heavy pains in the head and limbs. Great discharges of lateritious urine and of alvine matter, terminate a paroxysm, which in this sort of fever is generally much longer than in any other of an acute character.

5. There are many surprising effects in the course of the disease, especially after its long continuance in the system, which have not yet been explained. First—its frequent relapses: these are the more to be apprehended, if the patient has long endured the fever, or has been often seized by it, notwithstanding his removal from moist and sickly into the most wholesome situations, and in spite of judicious treatment. Secondly—a double tertian can unexpectedly be transformed into a continued fever, connected with apparent cachexis; but this change induces either hepatic congestion, or an enlargement or induration of the spleen. Excessive debility, a morbid,

sallow paleness, or a jaundiced skin, with a bloated face, portend a chronic and vitiated condition of the circulating fluids, and considerable difficulty to bring back the whole system to its former healthy functions. In fine, intermittent fever is often connected with so many different determinations during the state of apyrexia, constituting thereby an uninterrupted succession of morbid affections, that the French have filled up a catalogue of twenty-five species and upwards of that order of fever. *(Vide Diction. des Scienc. Medical.)* Their symptoms are altogether surprising and unaccountable, such as that of a constant coma or sleep—of mania—of ptyalism—loss of memory—of a tormenting headache—of hydrophobia—of fainting, or lipothymia—of pertussis and asthma—of loss of the voice or aphonia—of a distressing catarrh—of ischuria or dysuria, and many others, which it is unnecessary to enumerate in this disquisition. I only remind the the reader that, according to diversity of constitution, intermittent fever is most probably produced by some very serious cause, and deep derangement in the primordial laws of vitality and circulation ; and that, like epilepsy, catalepsy, tic douloureux, chorea, and lunacy, it remains to this day a very obscure and problematic disease, in its *proximate cause* as well as in its *diagnosis*. Let us, however, see whether by one or more of its symptoms, we may not clear our way to either of them. We take that of the periodical returns of the paroxysms of intermittent fever. Each of the diurnal revolutions of our planetary system encompasses, undoubtedly, all the functions of animal and organic life—digestion and respiration—the secretions, internal and external—motion and sleep : each of them is necessary during twenty-four hours, and each of them are to be renewed on the succeeding day. Thus " a day," says the scripture, " speaketh to another day ; and the night instructs us for another night." (Psalm xix.) A certain number of those diurnal revolutions are numbered for our existence here, and it is but by changeable causes that they are shortened or lengthened. It takes 270 diurnal revolutions for the period of gestation in the womb of the mother ; to which Hippocrates added ten more, for accidental deviations from the laws of nature; which even does not lessen the number of lunations necessary to human females before they can be mothers, except in tropical and torrid regions. At each diurnal revolution we experience the same wants, and require the same quantity of air to breathe, and the same quantity of food. There is no labour or difficulty which all instinctive or rational beings will not undergo to procure that food; and to the *homo sapiens* himself a sublime precept is handed down, which circumscribes the operative phenomenon of his life to *one* day, teaching him humbly to *pray to God, and beg for his daily bread.*

In the progress of life, or of these continued diurnal revolutions, the periods of infancy, childhood, virility, and caducity, are also marked by years and months. If, therefore, every thing that constitutes our well-being, vital powers, growth, and preservation, is all afforded within diurnal revolutions, is it not reasonable that in the periodical returns of disease, we should look for the cause among the *non naturalia*, or among the objects which we do not carry within ourselves, but which are *daily* afforded to us from objects and elements which surround us, and which have been either injurious or wanting? Air and aliment are the compendium of these necessary objects; and should they be refused to us in part or in toto, diseases will grow upon us daily, or periodically manifest their symptoms and morbid effects. The daily progress of these will either be simultaneous, and affecting all the parts of the human system; or else it will be partial, and constitute a conflict or struggle between the animal and vital powers, according to the degree of injury received by either of them; in other words, a *periodical paroxysm of fever* will take place. Now, as it is clearly proved that intermittent fevers cannot be traced to a deficiency, or the bad quality of aliments, there remains only for us to investigate another important source of the elements necessary for life, and from which respiration has undoubtedly transmitted some capital injury; that is, atmospheric air. On the other hand, it is ascertained that if the human body has been long immersed in a humid atmosphere, it appears to have been deprived of an element necessary to life, and which must give energy to vitality; and, by subsequent operations in the system, this induces an intermittent fever. How can the condition of moisture in the atmosphere produce such a phenomenon, and by what positive or negative agency? This is the point within which our investigation remains confined. Moisture alone cannot be the cause of intermittent fever, or else it would often and necessarily renew that disease among one half of mankind who, by their occupations, trade, business, and by ordinary casualties, are not only exposed to, or immersed in moisture, but in water itself. That such exposures prove generally unhealthy, it is readily granted, and that they cause rheumatisms, palsies, cramps, and a variety of other complaints. These are the commen effects upon persons thus exposed to moisture. Yet we do not hear of fever and ague among our washerwomen, nor among the workmen in linen, cotton, and woollen cloth manufactures; nor among the tanners, the hatters, the masons, and the sailors. Moisture, therefore, cannot, by external application to the body, be considered as a proximate cause of this disease; but it might be by internal contact with the organs of *respiration*. And for the purpose of ascertaining in what way a moist atmosphere can thus become noxious, let us for a moment advert to the laws appertaining to that most important function; and instead of conjecture, it will afford scope enough to our intellectual view and demonstration, of one of the sources of vitality which the circulating fluids receive through respiration, and which becomes defective or suspended under the external causes generating intermittent fevers. The principal laws of respiration are so much overlooked in medicine, and so seldom presented to physiologists, that I must be permitted to remind my readers—

1. That atmospheric air is at each inspiration put in contact with venal blood, at the mouths of the capillary nets of the pulmonary arteries, ramified in the air cells of the lungs.

2. That this venal blood, carried by the pulmonary artery from the right ventricle of the heart, contains much superfluous gaseous carbon and hydrogen, or carbonated hydrogen.

3. That by the concurring laws of a compressing atmosphere *in vacuo* against the external compression by the same, and of the respective affinities of divers elements, air is immediately decomposed, gives a part of its oxygen to the carbon to form fixed air, and the other to hydrogen, to convert it into aqueous vapours; both of which fixed air and aqueous vapours are thrown out at each expiration with the remaining residue of other elements; the two first compounds containing the specified quantity of oxygen which was received by inspiration.

4. That the azote of the decomposed atmospheric air is in part received in the blood, which by the departure of much carbon and hydrogen, and by the accession of two thermometric degrees of heat, drawn also from the same source, becomes florid, rutilant, renovated, and stimulant.

5. This new or arterial blood is returned to the left auricle of the heart by the pulmonary vein; from this auricle into the left ventricle, and from this throughout the whole body, having at each inspiration received two degrees of heat (20 times a minute), and at each expiration having thrown out all its superfluous carbon and hydrogen. Thus is that all-important and fundamental function of life accomplished, which is called *hematose*, or sanguification.

6. Three great operations are performed at once, and they are equally necessary to life. The one is, the supply of about 2400 thermometrical degrees of heat every hour, which would be sufficient to burn and consume the body in that time, were it not exhausted as fast as it is generated, leaving only the temperature necessary for life, which is from 98 to 100°.

The second operation is, the formation by the lungs of a quantity of 40,000 cubic inches of carbonic acid gas in twenty-four hours, which give three ounces avoirdupois of carbon elicited from the blood in that time.

And lastly, the formation of aqueous vapour, by the chemical union of the oxygen of the air, and of the hydrogen rejected by the venous blood. This has been called by the ancient physiologists, the transpiration of the lungs; and it is so copious, that, as a serous fluid or vapour, it has been thought equal to all that which in the same space of time is secreted from the surface of the body. It is not within the necessary bearing of my subject to detail the importance of the decarbonizing function of the lungs, as performed during respiration; the identification of that function with the laws appertaining to surrounding elements, as proved by Lavoisier, Crawford, Davy, and by Messrs. Allen and Pepys; its direct influence on vitality and health, according to atmospheric pressure and temperature, which may render it imperfect; and its physiological forms in the auxiliary secretions of the skin and liver: all these points have already been treated of with an uncommon degree of correctness and philosophical science, by Charles E. Pearson, M. D., of Morristown, New-Jersey. (Vide Physico-Med. Trans. vol. I.) I have added another proof of the doctrine of the decarbonizing function of the lungs, by deriving from it and from sundry pathological analogies, the views and opinions I have advocated respecting the cause and diagnosis of the yellow fever. (Vide Address of Dr. F. Pascalis to the Med. Soc. of New-York, 1822.) And now I have to say, that the third function of the respiratory organs consists in the secretion of the hydrogen from the venous blood, which, with the oxygen, composes that serous fluid, or vapour, incessantly emitted by expiration. Should that function be impaired or interrupted, it becomes the cause of intermittent fever: and the better to illustrate the position, I solicit the attention of the reader to the following facts and remarks:

1. Hydrogen, or inflammable gas, is one of the component parts of water, and by the natural decomposition of animal and vegetable substances, is easily disengaged from marshes and moist grounds; being much lighter than the atmospheric air, it always precedes aqueous vapours, even in a

temperature as low as 65°, and is also mixed by aggregation with those exhalations; although in that condition it is seldom pure; it is frequently perceived by a peculiar odour like that of garlic; it is a fact, however, that the hydrogen gas from the earth and marshy places and stagnant waters, is rendered more or less deleterious by carbon, and it is then still more unrespirable to living animals, solely because it still more interferes with the laws of respiration.

2. Hydrogen imparts a bluish colour to the blood of animals: if a man be made to breathe it, his lips will soon darken and take that colour; and as water must frequently be decomposed by various processes in the human body, it is reasonable to suppose that venous blood returned to the lungs contains much superfluous hydrogen, there to be elicited from it and carried off; therefore the greater the quantity of moisture, or of hydrogen, in the atmospheric air we breathe, the less power will remain in the respiratory function to secrete the venal hydrogen, and a considerable portion of it must then remain in the circulating fluid.

3. I am not prepared to say whether humid vapour breathed with atmospheric air, is decomposed with it; or whether the pure hydrogen alone introduced into the lungs will admit some other combination with the air respired or with the arterial blood itself. In either case, the pulmonary secretion of venal hydrogen is impeded, or new hydrogen is forced into the circulation; the result will be the same; and its pernicious effects will equally take place.

4. Various experiments have been made to ascertain what would be the direct effect of hydrogen in the blood, or in the constitution, besides that of altering the florid colour of arterial blood into a dark blue colour. They give us but little light on the subject, owing to the prompt and serious symptoms of the suffocating congestion it causes in the lungs, even when injected into the veins of animals. We are, however, apprised that it is a powerful solvent of all the component parts of the blood, that it does not combine with other substances, even with oxygen, but by the means of great heat; that although

inflammable, it considerably refracts light, and extinguishes a lighted taper plunged into a receiver filled with it: we may therefore safely infer, that when passed into the circulating fluids, it is not a conductor of vitality, and disconnects their stimulating action at the points which must receive it; hence it seems principally to affect the nerves, so much as to have given to intermitting fevers the much accredited character of nervous fever; and as it is highly expansible by caloric, it is very evident that a great and artificial heat created by a paroxysm of fever, or heat applied artificially, would be very subservient to disengage it, and force it out from the pores. And no doubt this is the best remedy that nature can afford; for whatever may be the injury that a part or parts of the human body are labouring under, the irritation it causes, whether it is felt or not, is the preservative law by which all the energies of the whole system are gathered up and assembled to allay or remove it; sometimes by convulsive motions and contractions, and sometimes by a violent fever, which accelerates circulation, increases animal heat, augments all the secretions through the usual emunctories as well as through the pores of the skin. Thus admitting that a want of vitality or debility can exist in the nervous system for a while, it will not be long before this evil is remedied by a paroxysm of fever, which can replace it on a par with the wants of the system, and with the waste or expenditure which life incessantly requires; and this benefit will be extended to a certain period of time, or one or many diurnal revolutions, according to the exigency of the case, and of the possible renewal of the same cause. The most remarkable circumstance, however, and an invariable law of nature, is, that the repetition of this phenomenon obtains the sooner and the oftener within the period of one or two diurnal revolutions, according to the lessened degree of the disease which will be retarded when it is more deeply rooted in the system; because the greater the injury is that has been inflicted by deleterious causes on the vitality of the human system, the longer time it requires to gather means and strength enough to effect a curative process. Of two paroxysms of an intermittent, within the period of a diurnal revolution, the last is always the critical, and happily carrying off the disease.

Our theory of the nature of intermittents receives no small support from that symptom more particularly observed in the paroxysm of fever, that is, dyspnœa: great difficulty and labour of respiration. It is in that organic operation that the disease commenced, by the suppression of one or many of its functions; the air-cells of the lungs having long and often been clogged with an unrespirable gas, or with moisture, they remain partly unfit for respiration, especially when they are hurried by a violent paroxysm of fever.

Another disease has also been ascribed to moist exhalation of the air, that is, the goitre. (Vid. Barton's Memoir on Goitre.) "It is certain," says Dr. Gibson of Baltimore, "that goitre prevails as an endemic disease chiefly in countries where the atmosphere is loaded with moisture, in valleys enclosed by lofty mountains, and which are exposed to the direct and reflected heat of a powerful sun." (Vid. Philadelphia Medical and Physical Journal, vol. I. p. 53.) Goitre is that species of bronchocele or tumour formed by the morbid enlargement of the thyroid gland. Its enormous size, the difficulty of its cure, with its terrible effects on the mental perceptions of persons affected by it, have been learnedly descanted upon by many ancient and modern writers. (Vid. Barton's Memoir on Goitre.) They have proved that the thyroid gland, occupying the anterior surface of the trachea, is provided with ducts pouring its secretion on the internal surface of it, and that by a retrograde disposal of it, or by a great quantity of serosity from the bronchiæ, that gland is enlarged and indurated, to the great injury and deformity of the subject, and especially females. Is not that serosity the ultimate result from a respiration impaired by a moist atmosphere, by aqueous exhalations, and by a quantity of uncombined hydrogen gas, having frequently irritated and increased the lymphatic secretion from the lungs?

I trust this is more than sufficient to show that we are much mistaken respecting the indications to be adopted in the treatment of intermittent fevers; and especially by our exclusive reliance on the best preparation of Peruvian bark, or of any other specific remedy. We may with it suspend or check the symptoms, and thereby, in most of the cases, prolong the disease much beyond its natural and ordinary duration. I grant that even in several instances, an intermittent has been ostensibly and exclusively cured by the exhibition of that or of other tonic medicines: yet, let it be remarked, that it was not without one or many paroxysms of fever, which were sufficient to improve and renovate the circulating fluid, to perfect the functions of respiration, and to re-establish at par, the nervous vitality in both the organic and animal systems.

We will therefore infer that the following are the most proper and correct indications for a powerful and radical cure of this complaint, provided it be not complicated with any aggravating circumstance of malignity, or with any visceral and morbid determination; and provided also the patient is safely removed from any kind of exposure to the causes, either local or atmospheric, which have induced an intermittent diathesis.

I. To assist and correct the functions of respiration.

II. To keep up and strengthen the functions of the stomach.

III. To create a due excitement of the arterial system.

1. That there is debility or obstruction of the pulmonary organs in a simple intermittent, is to be inferred from the character of the disease itself; and it should be emphatically defined as prominent among the asthenic fevers. Furthermore, we have noticed from authority as well as from experience, that during the febrile paroxysms an intermittent was very strikingly marked with laborious and difficult respiration. The editors of the Dictionary of the Medical Sciences have from this symptom, and from its periodical return, classed it with diseases essentially bearing a diagnosis of imperfect, or of suspended respiration: such as asthma, syncope, catalepsy, neuralgia, convulsions, epilepsy, and that periodical head ache which is said to be brought on by a torpid respiration. (vid. art. *fievre*. pag. 302.) In addition to all this, the

indication of assisting and correcting the organic power of respiration is to be inferred from our theory of intermittents, as it discloses a primary cause interrupting one of its functions; one, too, which by its operation on an organ of a delicate and complicated texture, will require much time and the most correct management fully to restore its wonted elasticity and power. Who is not aware, that however timely a person may be relieved after having swallowed a poisonous substance that has been rejected, he will yet long linger under dyspeptic symptoms, or other unpleasant effects? An angina tonsillaris, or laryngitis, promptly cured, will for a long while affect the human voice; and the most successful operation for the cataract can but gradually impart the perfect enjoyment of vision.

An active remedy to shake and stimulate the lungs into perfect operation, is at first highly necessary. Emetics are therefore indicated in the treatment of an intermittent fever. They have a direct beneficial action against the torpor, the congestion, and collapsed condition of the air-cells. Tartar emetic is preferable to any other vegetable or chemical vomitive, owing to its more regular and diffusive operation on the diaphragmatic plexus and the nervous system, and its being always attended by a gentle diaphoresis. I would also recommend to exhibit this remedy in the form of a cathartico-emetic, by associating it either with calomel, or with half an ounce of glauber salts; and in order that the purging effect should not encroach too much upon the vomitive, the emetic dose should be increased by a grain or two. There are two reasons for so doing, that of cleansing the stomach and removing the bile which is more or less accumulated in diseases from defective respiration; and that of obviating any further necessity of purging the patient. The practice of giving drastics is absolutely misapplied to intermitting fevers, and is contra-indicated by the debilitating tendency, usually resulting from cathartic medicines, which will renew or prolong the complaint; and I am happy that this view of the treatment is acknowledged by recent and respectable authorities.

There are many other processes by which the chest can be expanded, and respiration invigorated and accustomed to full inspirations: these are the application of artificial heat by clothing, by hot drinks, by hot steam, by alcoholic or resinous vapours, by swinging, and by violent bodily exercises. May I be permitted to recommend also the use of electricity, during the interval of apyrexia that generally precedes the paroxysm of fever?

2. Our second indication directs the attention of the physician to the digestive functions; these can best renovate the activity and strength of the system, and hence, it was once believed that animal gelatine was a real specific in the cure of intermittent fevers. It was administered in a large dose, and in a condensed state, mixed with sugar, some time before the paroxysm of fever, which was either wholly overcome by it, or, at least, rendered milder and shorter in duration. Time and experience have proved that this favourable operation was not owing to a febrifuge virtue in animal gelatine, but only to its nutritive and invigorating effects on the system, labouring under a state of exhaustion and debility. Other facts from repeated observation have been recorded, of unexpected and spontaneous cures of intermittent fever by a large quantity of digestible food taken unadvisedly at one time by patients who would no longer submit to be restrained by the strict rules of abstinence from food. We are further shown by daily attention to our patients in this complaint, that however violently and morbidly they have been exercised by the periodical returns of fever, it is almost impossible to restrain or moderate their appetite, even under the established and very erroneous prejudice of starving a fever; and why have various sorts of tonics, bitter substances, decoctions from roots, herbs, astringent acids, and Peruvian bark, obtained an universal approbation as remedies for intermittents, if not from their power to stimulate the stomach into digestible action, and thereby to supply the wants which the body experiences in that complaint. It is not required to reduce

the system in intermittents, but to supply new blood for the assistance of vitality in a state of sufferance and diminution. Peruvian bark is an excellent tonic, it is true, not only for the stomach, but for the whole system, in which it counteracts whatever threatens or impairs vitality; but its chief use in this disorder is to increase the power of digestion, and therefore choice food must be given at regular times, and that too which is most easily digested, and is most apt to produce blood. Bark given plentifully without attention to this end, may indeed assist the patient in resisting the paroxysm expected, but it cannot cure or remove the cause. In this delicate part of the treatment, the physician ought to be guided by the usual quantity and quality of food used by his patient in the days of his best health, and never be afraid to equal it, *pro re natâ*.

Struck with the numerous failures of bark, and of every kind of specific tonics, no known species of which can be exclusively relied on, Darwin has said that "the cure of intermittents depends on its (bark) stimulating the stomach into stronger action, in association of the viscus with the heart and arteries, and thus to prevent the torpor and debility of the sanguiferous system." (vid. Theory of Fever.) This doctrine is, in other words, that of restricting ourselves to the promotion of a vigorous excitement in the sanguiferous system, and to its depuration; thereby speedily to replace it in a condition to bear its necessary waste without any other advantage from specifics or tonics than what they can afford for good digestion and sanguification.

3. But a moderate and well-supported excitement of the arterial system, whether it be natural or artificial, will answer one or many curative indications. Why so? Because, as long as the excitement is continued, all depurative secretions are active; digestion gives new chyle and new blood, and the system is renovated. These happy effects are perhaps easily obtained in simple cases of intermittent; when, after a sufficiently energetic vomitive, good food and tonics may establish a natural excitement. Yet in long protracted fevers, this plan

would be insufficient. It is well known that in intermittents of an aggravated condition, reliance can no longer be placed on bark: but I am satisfied that either iron or mercury would create the necessary excitement, and promote their cure. The editors of the Dictionary of Medical Sciences relate the cure of an obstinate quartan of four years' duration in a gentleman of 30 years of age, by the use of copperas in the dose of 20, and afterwards 30 grains a day, although the subject had fallen into a state of horrid emaciation, and would absolutely refuse any of the most accredited febrifuges, yet, with the gradual excitement produced by the sulphate of iron, and by good nourishment, (being all over clothed in flannel,) he perfectly recovered in a few weeks' time. This remedy, by the by, is said to have failed in ordinary quotidians and tertians. In adducing it, I only wished to prove, that this or other preparations of iron have the property of creating a considerable excitement in the arteries, and exactly that kind of excitement which is the most effectual in the present kind of fever. Experience proves that the same can be obtained from mercury. Two cases are present to my recollection that were so far aggravated by the continuation of a tertian, that in both, bilious congestion in the liver, enlargement and induration of the spleen, had taken place. The first, the mother of several children, and for whom no medical care nor tonic medicines had been spared, was promptly cured by pills of submuriate of mercury, two or three grains a day, which more readily operated by procuring bilious discharges than by affecting the mouth. The second was still more complicated, by a long-standing catamenial suppression; she was aged 18 years, and had contracted a severe tertian in the town of Marietta, on the Ohio, where it is endemic, and often complicated with much malignity. There she lost both her parents. The fever left her from the change of air only; but she was much diseased on her arrival in New-York, where medical attention was only directed to her amenorrhœa. Presuming that she was dropsical, some drastic medicines were exhibited, which immediately brought on a violent paroxysm of her former tertian.

Another returned in two days; when, upon reflection, and being satisfied that she bore a tumefied spleen, and that her predominating diagnosis was that of long-standing intermittent, I gave her a few pills of calomel, which brought on so severe a ptyalism, that I was soon obliged to discontinue them. This was somewhat attended with an inflammatory and painful condition of the mouth, for which I bled her; but the mercurial excitement, with salivation, continued about ten days, and carried off both the tertian and the abdominal tumour; after which, a few emmenagogues restoring the catemenia, her cure proved complete.

It will be objected, that however ingenious our theory may be, as derived from the laws and functions of respiration, in its application to intermittent fevers, it falls short of furnishing any evidence in favour of the indications suggested for the treatment thereof, in preference given to any former doctrines and remedies: that nothing new indeed is offered at present; and that nothing but what by chance or by medical skill has been applied, during many ages, by ancient and modern physicians, who have not perceived, that with one or two pukes, good nourishment afterwards, and a few tonics, intermittents might be easily subdued: that a contrary result has been derived from their experience; and difficult of cure, and subject to relapses as they are, intermittent fevers, require a certain period of time for the disease to run through its regular stages, which remain indistinct and undefined; while nevertheless, a *specific* remedy is at last what cures them: that it is no matter how fortuitously and singularly the curative process has in many instances been obtained, because there is in this kind of fever a periodical nervous association, with a certain morbid state of the blood, which might bring on convulsions, but causes, in this form of disease, a paroxysm of fever, and a *specific* means removes it: that a *specific* remedy is therefore wanted; and the best we possess, is the Peruvian bark itself.

I have thus stated an objection in its full force, which I have frequently made to myself; but although it appears plausible, it will not easily establish the assumed ground of preference for the old doctrines against our present theory. There is a great difficulty in the way. When it is a question of a periodical disease, we must not pretend to decide which is the best and most effectual remedy, unless our mode of treatment admits as a condition, and a necessary one too, some rules *in relation to time* for the exhibition of medicines, especially in this, which is periodical, and very versatile in the march of its paroxysms. It is well understood that Peruvian bark must be administered in the interval of apyrexia. This is admitted in practice; yet, as far as it goes, Peruvian bark fails, and often must be given up; oftener is succeeded by relapses; remaining, therefore, an uncertain and dubious antidote. Now, let us take an impartial view of the general mode of managing those fevers.

Is it not true, that little attention or none at all in point of time, is given or thought necessary in the treatment of intermittent fevers?—that physicians prescribe the same remedies, whether it be a quotidian, a tertian, or a quartan? Is it not true that, visiting their patients in the *day-time*, they seldom or never think to appropriate the *night* for the observation of paroxysms, or for the use of medicaments? Is it not, however, evident, that a quotidian cannot afford a longer period than 6 or 8 hours; a tertian more than 12 or 14; a quartan, 24 or 36; and that, according to a recurrence of fever in the morning, noon, or in the evening, it becomes necessary to invert the usual order of meals, of taking medicines, and of rest? What physician has yet thought it indispensable, or rather has not found it ridiculous, to apply, during the night only if necessary, the prescription which he has given at noon-day? Such should, however, be the case in correct practice, so that the virtues of remedies may not be thrown away, nor the strength of the patient necessarily wasted. One of the most striking cures of a lingering tertian I have witnessed, was that of a lad, of about 17 years of age, who had been kept under medical treatment and regimen. Impelled by great hunger, he got up during the night, to search for something to eat. He found and ate up voraciously, a quantity of boiled peas, which happened to be of the most nourishing kind (the *cicer*, in the Linnæan class of diadelphia). He returned to his bed, where he happily slept away his distressing disease, and thus perfectly recovered. Let all these practical cautions in intermittent fevers be adopted and attended to. I hope it will be found that a similar mode of treatment is more effectual than hitherto supposed, and that the doctrine of specifics is absolutely delusive.

Be this as it may, the complaint under consideration lies in our books like an opprobrium medicorum, for there is no system nor determined theory in relation to its causes, or diagnostics. All that we know of it, remains still subject to controversy or opposition, and our patients in intermittent fever, are always more under popular management than medical; and after we have prescribed Peruvian bark, or some new substitute, as a supposed *specific*, the public have nothing more to expect from us; yet our materia medica testifies our diligence and researches after remedies. The Americans have particularly added many precious vegetable substances, especially the *Liriodendron Tulipifera*, the *Prunus Virginiana*, the *Cusparia Febrifuga*, the *Quassia Excelsa*, &c. We have poisons also, the *Strychnos*, *Faba St. Ignatii*, the arsenical drops of Fowler, as a pre-eminent febrifuge, and the opium from high medical authority. In fine, and as an American remedy somewhat under patronage, the *spider's cobweb* should not be forgotten. The sulphate of quinine at present seems to hold among us an undisputed ground and pre-eminence. It will not, however, discredit the very numerous popular remedies which, although frequently rejected by physicians, are still supported by recent or known instances of cure. These are too numerous to detail. Suffice it to say, that they embrace a great variety of roots and substances of all kinds; and that not unfrequently they extend to magic and incantations. A singular deception of the kind, and a very operative one, I must be permitted to mention. A French brass-founder once got into great repute for curing intermittent fever with a kind of *enchanted* or *miraculous brass cup*, on which many symbolic and cabalistic figures were engraved. This he hired, at a great price, for the following prescription:—It was to be filled up with hot wine, which, when cool, was to be drank so many times a day. It usually excited some vomiting or colic; but it cured the patient, probably as a *gentle poisonous dose of verdigris* and oxide of zinc!

The present state of medical theory and practice with respect to intermittent fever, may therefore, I humbly hope, be my apology for offering some rational and philosophical disquisitions on the subject.

ART. III. CASE *of* OSTEO-SARCOMA *of the* SUPERIOR MAXILLARY BONE, *with the operation for its removal.* By DAVID L. ROGERS, M. D. of New-York.

As the attention of surgeons of late has been directed to the diseases of the face, and more particularly to the ossific tumours of this part, it is important that every fact should be given to the public which may have a tendency to elucidate the character of this disease, or to confirm the utility of those splendid operations lately performed in cases of this kind by Professor Mott. For in the result alone can their importance be established; and, like all innovations in practice, they must, for a time, contend with the prejudices of professional men, which, however, will gradually yield as success becomes more certain.

The favourable result of Dr. Mott's operations on the lower jaw, for the cure of osteo-sarcoma, led me to the belief that the disease might be cured in any situation, provided the morbid parts could be completely removed. It is considered a local, rather than a constitutional affection, as most of the cases which have been published evidently prove. They were generally submitted to strict medical treatment, but without receiving the least benefit, and a resort to the knife rescued them from death.

With the firmest confidence in the utility and success of a surgical operation, I was induced to attempt the extirpation of the disease from the *upper jaw*, in the following case.

R. G., born in Ireland, aged 34 years, came under my care about the first of May, 1824, for an affection of his nose. His constitution was much injured by previous intemperance and hard labour. He stated, that the affection of his nose was of six weeks standing. The disease first made its appearance by an enlargement of the soft parts in the front of the mouth, and a loss of all the incisores teeth. His nose soon became obstructed, and a body of a fungus character made its appearance in the right nostril, pressing upon the septum, and gradually obstructing the passage of air through the nose. The disease had progressed thus far, at the time of my seeing him, without much pain, but with surprising rapidity, and was then making its way through the palate.

The malignant character of the disease, and its rapid progress, almost prohibited any attempt, with the least prospect of giving the patient relief. It being evident that unless some energetic measures were adopted to arrest its progress, it must soon terminate his existence, I therefore determined, with the approbation of Dr. Mott, to attempt its extirpation.

The operation was accordingly performed on the tenth, in the following manner. An incision was made first through the filtrum of the upper lip, which was dissected from the tumour and alæ of the nose, so as to turn both portions of the lip over upon the cheek. The second incision was to detach the cartilaginous portion of the septum narium from the top of the tumour. After extracting the first molar tooth on each side, a fine saw was used, which readily divided the superior maxillary bone, including the palatine process, the two incisions meeting at the palatine suture: after sawing through the principal bones, the tumour was easily removed, although it extended much farther back than was at first anticipated. It was found necessary, during the operation, to remove the two inferior turbinated bones, a part of the septum narium, the vomer, and a part of the right antrum.

Only a small quantity of blood was lost during the operation considering the extent of the disease, and the vascularity of the part: this may be attributed to the frequent use of the saw. After the operation, the soft parts were brought together, and secured by three sutures and adhesive straps. No unpleasant symptoms occurred during his recovery. The parts adhered by the first intention. There was considerable falling in of the upper lip, in consequence of the support which it gave to the nose. In two weeks from the time of the operation, the patient was able to walk out, and on the fourth, to return to his daily labour. The situation of this man will be rendered comparatively very comfortable with the assistance of a cork palate.

ART. IV. CASE *of Poisoning by* TINCTURE *of* OPIUM, *successfully managed by Terebinthinates.* By FREDERICK W. JENKINS, M. D. of New-York.

IN explanation of my reasons for using the Ol. Terebinthinæ in the following case, I would state, that it was my fortune, whilst pursuing my studies in this city, under an eminently distinguished teacher and practitioner, to be present at a case of poisoning by laudanum, in which that gentleman's best exertions were unsuccessful in effecting a recovery.

Struck with this fatal result, and determined, if possible, to fix upon some agent, whose energies could be confidently relied upon in such dreadful emergencies, it appeared to me that the oil of turpentine presented claims entitled to paramount attention. It is known to be a diffusible stimulant of the most potent kind; a cathartic, whose certainty and activity of operation are almost unrivalled. In this article, therefore, were combined, qualities which peculiarly adapted it for preference in the circumstances alluded to. Its stimulant properties, it appeared to me, were calculated to rouse the system from the state of torpor which follows the ingestion of an inordinate quantity of opium, and its actively purgative powers to deterge the bowels of their noxious contents, and to prove a counter-irritant of the most valuable description. This theory thus settled in my mind, I had fully resolved, in the first instance that could not be controlled by the ordinary remedies, to see whether the practice deduced from it would not be salutary. The following case realized my most sanguine expectations.

Early on the morning of the 2d September, I was requested to attend on Mrs. M'A——, who was stated to have taken a large portion of laudanum the evening previous. Not prepared to obey the summons immediately, I sent by the person who came for me, the ordinary emetic of ipecac. and tart. of antimony, with directions for its being given as soon as possible. On my arrival, I found the situation of the patient as follows: countenance cadaverous, mouth and eyes half closed; extremities nearly cold, and very little warmth on the surface generally; pulse scarcely to be felt; presenting, in a word, all the appearances of approaching death. From her friends I ascertained that she had taken to the amount of between two and three ounces. A medical man who had been called in, ordered *nitrate of potash* to be given. This, as might reasonably be expected, produced no other effect than considerable excoriation, and an excessive tenderness of the mouth and fauces. He then withdrew, declaring the case to be hopeless. About 12 o'clock that night, a physician of the highest eminence was sent for. He succeeded in getting down a solution of the sulp. cupri: this excited some degree of vomiting, but the matter ejected was wholly unmixed with laudanum. Such, I understood, was the history of the case.

Finding that the powder I had sent had been thrown up shortly after being taken, and that another of the same description, which I now gave her, shared the same fate, both bringing away nothing but a watery fluid, having neither the appearance nor smell of laudanum, I endeavoured to administer a table spoonful of a strong solution of sulphate of zinc. The excessive sensibility of the mouth would hardly allow of its being passed beyond the verge of the lips. Remembering then the expedient resorted to by Dr. Chapman in similar circumstances,* I ordered an injection of a drachm of tartrite of antimony dissolved in water. After waiting some time, and finding that this, although retained, produced no effect, I now resolved to exhibit the turpentine, both by the mouth and anus. The following mixture was accordingly immediately thrown up:

℞ Ol. Tereb. Rectif. . . ʒi.
Vitel. Ovi . . . . . No. 1, M.
Deinde adde Aq. Pluv. Tepid. . ℥viii.

This, after being retained some minutes, was rendered, bringing with it a slight tinge of fæcal matter. Obliged to leave my patient, I gave directions to have the enema repeated in about thirty minutes, and for her to take, every quarter of an hour, three teaspoonsful of the following:

℞ Ol. Tereb. Rectif. . . . ℥ij.
Ol. Ricini . . . . . . ℥j M.

12 M.—An evident improvement had taken place. Her lips and countenance had in some measure lost their ghastly hue; a degree of warmth had returned to the extremities and surface in general; pulsations at the wrist distinctly to be felt; no catharsis had, however, yet taken place. Ordered a soap injection, and to continue the terebinthinate mixture.

6 P. M.—To my utter astonishment, found the patient sit-

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* "After having unavailingly tried a series of the most active emetics, I directed that half a drachm of tartarised antimony, dissolved in a little water, should be thrown up the rectum; and, as I anticipated, a violent cholera morbus ensued, evacuating the entire alimentary canal, so much so indeed, that the food undigested came by stool."—*Therapeutics*, vol. I. p. 158.

ting up out of bed, and able at times to converse with her friends. Her system, however, was visibly much exhausted, and her ideas were rather wandering. Was informed, that shortly after my last visit, an active purging had taken place; dark and offensive matter had been discharged; and that the amendment, so surprising to all who were present, had then developed itself. Complains of much soreness of mouth and fauces.

Sept. 3d, 11 A. M.—Dr. Francis was so kind as to accompany me to see the patient. We found that the narcotic influence of the opium had entirely passed away, and that her mental faculties had resumed their full dominion. Soreness of the fauces still continues, with indistinctness of articulation, and some difficulty of respiration. An epispastic was applied to the chest, and she was ordered demulcents.

Sept. 4th.—Laryngitis has supervened. An emetic being given, had a most signal effect in repressing the attack. A blister, with small doses of ipecacuanha and calomel, have rendered her recovery no longer a subject of doubt.

ART. V. *Additional Remarks on the* EUPHORBIA HYPERICIFOLIA. By WILLIAM ZOLLICKOFFER, M. D. of Maryland; in a letter to the Hon. Samuel L. Mitchill, M. D. LL. D. and Professor of Materia Medica and Botany in the University of New-York, &c.

WHEN I transmitted to you a former communication* on the *Euphorbia Hypericifolia*, more particularly in relation to its remedial application in *dysentery* and *diarrhœa*, no case had presented itself to my professional consideration, approximating to *cholera infantum*, which afforded me an opportunity of testing its efficacy. Since that period several patients, labouring under this distressing, and not unfrequently unmanageable malady, have claimed my attention. In each of these cases, with the exception of one, in which I prescribed this invaluable indigenous vegetable production, I am happy to say that I was not disappointed in viewing its salutary effects.

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* New-York Medical and Physical Journal, No. IX.

In the treatment of the disease under consideration, I would have it understood, that I am in the habit of directing its internal exhibition under certain circumstances only, in which narcotic and astringent remedies would not appear to be contra-indicated. In the first stage of the disease, when the inflammatory or febrile excitement is such as to render the adoption of the antiphlogistic means in a greater or less degree advisable, my attention is generally directed to the use of small and repeated doses of *calomel*, with a view not only of removing from the alimentary canal the vitiated secretions that too frequently appear to be present, but likewise to subdue the increased and irregular arterial action; and also to quiet, compose, and tranquilize that deranged excitement in the hepatic system, which may be considered a symptomatic affection, and which, if not corrected, must in the end be calculated to act as an additional source of aggravation, and consequently render the application of the most useful and efficacious remedies the more ineffectual.

The ol. ricini I sometimes direct to be taken, both alone and in conjunction with calomel; but never, unless the discharges from the bowels are more or less sanguineous; under which circumstance I conceive it admirably adapted, in addition to the cathartic effect it produces, to sheathe the mucous coat of the bowels, by obtunding the action of the vitiated secretions, that would, in this stage of the disease, most certainly be productive of much increased pain and uneasiness.

In the secondary stage of this affection, where I have reason to apprehend an inflammation of the intestinal tube, I not unfrequently direct the application of an epispastic over the abdominal region, with a view of relieving and removing the local inflammation, and likewise of rousing up the nervous energy, and consequently producing a contrary impression to that

that has been induced by the operative influence of the predisposing and exciting causes of the disease.

Various other remedies I am in the habit of using, with the intention of breaking up the general febrile excitement, of correcting the state of the bowels, and of restoring the liver to the healthy performance of its destined functions. In the use of these, I am, however, always governed by the constitution, nature, and state of the disease, and the necessary concomitant circumstances that should be invariably taken into view, previous to any conclusion being adopted in relation to the plan that should be pursued in the successful management of diseases generally.

When I have found the adoption of the plan that I have just pointed out ineffectual, and incompetent to the removal of *cholera infantum*, which in more than two-thirds of my patients has been the case, I have, from the circumstance of its having generally removed, in a considerable degree, the increased excitement connected with the first stage of the disease, been enabled to place those that have been committed to my care, in that situation in which narcotic and astringent remedies would not only be considered admissible, but essentially necessary. In this situation, I have directed a small tea spoonful of the infusion of the euphorbia hypericifolia, directed in the third volume, pages 33–36, of the New-York Medical and Physical Journal, to be taken every three hours, until its salutary effects became evident, when the dose was to be given less frequently. With this article I can safely say, that the little sufferers shortly began to revive and become cheerful, and exhibit to their attendants a favourable termination of their malady. I have never given it a trial in the primary state of the disease, supposing the system not to be in a proper state for its successful administration. When I have, however, been called to see a case that had been affected for several days, in which much debility was present, I have prescribed it without preceding its use by other remedies, and that with equally decided success.

To conclude: I am exceedingly happy that I have it in my power to present the medical profession with a plant possessing such remediate virtues, as to render it, perhaps, one of the most useful and efficacious medicines with which the materia medica acquaints us, in the treatment of a isease which not unfrequently excites the sympathy of the attentive, the intelligent, and the successful practitioner. And I would hope, that such as may have an opportunity of testing its utility, would give it a few trials, in order to satisfy themselves of the virtues that have been ascribed to it, and consequently acquaint themselves of its decided usefulness over, I may add, every other remedy.

ART. VI. OBSERVATIONS *and Experiments on the Medicinal and Poisonous properties of the* MANCINELLA TREE. By J. B. RICORD MADIANNA, M. D. Read before the Lyceum of Natural History of New-York, April 1824.

THE family of the tithymaloideæ is one which offers great interest to the toxicologist, both in order to ascertain the real effects upon the animal economy of the poison contained in the greatest part of the 33 genera of which it is composed, and also to combat a great number of errors propagated and perpetuated to the present day, by passing from one book to another, as the *book-makers* thought proper to establish their borrowed erudition to the prejudice of truth. Nature, aided by science, has seldom been consulted on this subject. Men who abandon their homes to seek fortune in foreign climes, are, with very few exceptions, rarely competent to aid the progress of science; money almost exclusively occupies their attention; and should there be found among them one who makes nature his study, he draws upon himself public ridicule, and, to avoid the sneer of criticism, is sometimes forced to abandon his researches, particularly if they clash with interest. Such must ever be the case with the philosophical physician, who is too often censured for giving even a very trifling portion of time to the study of nature. This time, though so preciously employed, appears in the eye of ignorance to be robbed from that due to the sick. This unfortunate prejudice against those sciences whose progress requires something more than a study of books, will last as long as the knowledge of the humble philosopher shall be a source of humiliation to rich ignorance, or as long as flattering fools shall be its echo.

But let me now proceed to the abridged account of my remarks and experiments on some of the tithymaloideæ, and permit me to reserve all botanical, descriptive, or chemical analyses for my toxicology,* not intending to render my paper too lengthy, nor intrude too much upon your time. For these reasons, I shall give as few experiments as possible, reserving by far the greater part for my future work.

The mancinella tree,† hippomane mancinella. *Lin.*
Monœcia monadelphia. *Lin.*
Of the family of the Titymaloides of Ventenat.
Euphobes of Jussieux.

There are few naturalists who do not know that the mancinella is a large tree which grows on the sea-shore, in almost all parts of the Antilles, and on the continent of South America. I have seen some trees so near the sea as to have their roots bathed with its waves, and others at a considerable distance from the shore. I have measured some more than ten feet in circumference, and fifty in height. Its wood is hard, compact, and sometimes used by the cabinet-maker. Before the negroes begin to cut a mancinella tree, they light a large fire around it, and by this means dry up all its sap, and prevent the venomous vapours which it exhales from affecting those employed in working.

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* It is the intention of the author of this paper to publish hereafter, a general work on the Toxicology of the Antilles.

† Mançanillo, from the Spanish word mançan, an apple.—(*A Voyage to South America, by A. de Ulloa.*)

Hippomane, from the two Greek words, *horse* and *fury*.

Some take it to signify the secundines of a mare; also, the fleshy substance which sometimes adheres to the forehead of a new foalded colt is thus named.—*Motherby's Med. Dictionary.*

The fruit of the mancinella resembles in form and size that species of apple called pomme d'api, (mala apiosa et milerosa. math. m. Sativa Tournef.) though in colour somewhat different, being of a yellowish green. These apples, which send from the tree a delightful perfume, fall from it in great numbers, and dry on the ground, though sheltered from the rays of the sun, and what is remarkable, they never rot. This fruit, when ripe, is soft and spongy, and when tasted seems at first quite insipid, but leaves in the mouth a sharp and caustic taste. This is a fact of which I assured myself at my own expense: for one day, anxious to become acquainted with the taste of this poisonous, but beautiful and fragrant fruit, I could no longer resist the temptation, and chewed one. (This was, I recollect, March 3d, 1822.) It appeared at first nearly tasteless, but I was soon undeceived, for this insipidity in two minutes gave place to a pricking and burning heat almost insupportable. I at first had recourse to cold water, which I held in my mouth, and changed very often, to lessen my suffering; the burning sensation continued increasing for some minutes, when a copious salivation began, and appeased my pain.

I went immediately to bed, (for it was evening when I gratified my strange fancy of tasting this forbidden fruit,) and passed a bad night, with some fever. In the morning, the inside of my lips and the end of my tongue were covered with small pimples, and a blister which was formed on my palate gave me much pain and difficulty in swallowing. My mouth was much inflamed all day, and a multitude of pimples broke out on my chin. The following night was again a restless one; but by degrees these unpleasant effects wore off.

and on the sixth there only remained some slight traces of my experiment, which I firmly resolved not to repeat.

The mancinella apple may, however, be touched, whether green or ripe, without producing any eruption on the skin. I have frequently carried these fruits in my pocket, where, becoming bruised and mashed, I have, without being incommoded, withdrawn the pulp with my fingers. During the seven years of my residence in Guadaloupe, where I had an extensive practice as a physician, I never heard of a person poisoned by eating the mancinella apple. This is probably owing to its unpleasant taste, and it is difficult to conceive how the Piedmontese soldier, of whom M. Orfila makes mention, could have eaten two dozen of these apples without being disgusted by their insipidity, or deterred by the burning heat which must have pervaded his mouth after some minutes; it may be supposed that he was starved, and eat with great voracity. The following is the account, as related by the learned Orfila.—" A Piedmontese soldier," says he, " taken prisoner at the siege of Belgrade, was carried a slave into Turkey. One day, when walking on the sea-shore, he perceived on the ground a number of fruits, which he took for apples; he eat about two dozen, and filling his pockets, returned home, continuing to eat by the way. In about an hour his abdomen became tumified, and he felt an intolerable burning in his bowels. These symptoms augmenting, his lips became ulcerated by the milky juice of the fruit, and his body was covered with a cold sweat. He drank copiously of a decoction made of the leaves of a ricinus, (avellana purgativa,) which completely emptied his stomach and bowels; and all his bad symptoms by degrees disappeared. Rice was then administered to him, and in the space of twenty-four hours he suffered no more pain, and the swelling of the abdomen was singularly diminished," &c. From my experiments on animals, I am much inclined to believe, that eating more than a dozen mancinella apples in Guadaloupe would draw much worse consequences upon any person so imprudent. And besides, what a vast difference is there between this case of the Piedmontese soldier and the assertion made by Ulloa,* who says, "Upon tasting the mancinella apple, the body immediately swells, till the violence of the poison, wanting sufficient room, bursts it; as has been too fully confirmed by several melancholy instances of European sailors who have been sent on shore to cut wood," &c. But the assertions of travellers, when not confirmed by their own experience, are rarely to be credited.

Here follow some experiments, extracted from a great number found in my manuscript.

First Experiment.

May 16th, 1821, at 10 o'clock in the morning, I took a mancinella apple recently gathered, and mashing the pulp, gave it to a small dog. At 11 o'clock his abdomen was much swelled, and he lay down, appearing to suffer much pain. At 12, he had a natural evacuation; 3 o'clock he had two more, of a whitish colour, and in which appeared pieces of the apple undigested.† At 5 o'clock, the abdomen was still much distended, the animal very weak, and appearing meagre. He remained very ill all the afternoon, till eight o'clock in the evening, when he grew better, and ate a small piece of bread; he had no more evacuations. The 17th he was somewhat weak, but had a good appetite, and in two days was perfectly well.

Second Experiment.

I gathered some mancinella apples, perfectly ripe, and dried them in the shade. I cut twenty grains in small pieces, and gave them to a middling sized dog. This appeared to have no effect until three hours after. when I observed him evacuate great quantities of urine, and as frequently as three times in ten minutes. He had no other evacuation, but appeared to experience great weakness in *the loins* when walking, which lasted three or four hours. These effects, however, soon disappeared. This experiment gave rise to the idea in my mind, that this fruit dried might possibly be a powerful diuretic; and I repeated it upon several other days, giving doses of 20, 30, and 40 grains, and have always found the same result; the fruit thus dried appearing not otherwise to incommode the animal.

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* Don Antonio Ulloa's Voyage to South America, vol. I. p. 49. London.

† In the second stool there was a tænia of three inches long.

Third Experiment.

Feb. 12th, 1822. I pounded eight mancinella apples, and gave them to a young female dog, very strong and lively, exactly at noon. In a quarter of an hour she had a universal trembling in all her limbs, with convulsive motions. At one o'clock, she vomited a considerable quantity of foamy glair, after which she howled, and endeavoured to disengage herself from the cord which held her, appearing to suffer very acute pain. The abdomen then began to swell, and at two o'clock she vomited again very copiously; a great part of the apples was then expelled from her stomach, with a quantity of foam. The left *parotid* gland was much enlarged, and the animal grew weak. At half past three, she had a natural evacuation; her abdomen, however, was very much distended, and she appeared, from the relaxation of all the muscles, to be much fallen away. At four, she vomited again, but could no longer stand, so extreme was her weakness. At six o'clock, she was dying, motionless, and cold, with fixed eye, and breathing scarce perceptible. At half past eight, she died without convulsions or groaning, her limbs remaining supple.

Appearances on Dissection.

The head: the arachnoid membrane very much injected with blood, and some serum found at the base of the cranium.

The right lung much inflamed, and covered with black spots; the left slightly inflamed.

Heart: the right auricle distended with clots of black blood; the left empty. The right ventricle full of clots of black blood; the left empty.

The diaphragm very red and inflamed.

The liver somewhat larger than natural.

The gall-bladder filled with yellowish thick bile.

The stomach not much distended, its mucous membranes inflamed, red, and covered with black spots, separating easily.

The intestines much inflamed, with fetid air, and a great quantity of mucosity, and also filled with small black spots.

The kidneys more than twice the natural size.

The womb exhibited nothing remarkable.

From the preceding experiments, and a variety of others which I shall not give here, I have been fully convinced of the diuretic effects of mancinella apples, either freshly gathered or dried; but that this fruit will ever find a place in the materia medica, I consider very doubtful.

Father Labat tells us, in the history of his voyages to the Antilles, that "the white crabs or land crabs (*ocypoda pugilator*) are often poisonous; because, living on the sea-shore, they often find the apples and leaves of the mancinella, which they eat without injuring themselves much, but that the crabs thus nourished are very hurtful to those who eat them." This is what Father Labat had been told by the Creoles of his time, and he repeated it, as is practised by most travellers, from hearsay. The naturalist Jacquin, however, assures us, that crabs do not eat the fruit of the mancinella; and notwithstanding this assertion, many planters are still in the old error of Father Labat. Wishing to assure myself of this fact, I determined to take experience for my guide to lead me to the truth; and in July 1821, being the season when crabs are in great plenty, I took two (a male and a female) and put them in an iron cage, where I nourished them four days with the fruit of the apricot of the Antilles, (Mamea-Americana,) and with *curage* (commelina zanonica). They fed well all this time, and seemed perfectly healthy. A few days after, I withdrew from their cage all their food, and put in its stead two ripe mancinella apples; the two following days these apples remained untouched, when in order to be certain of the fact, I substituted their usual food in place of the fruit; they eat a whole day with avidity. The following day, I gave them nothing but the ripe apples, which remained untouched by them until they died. This experiment, executed with great care, and several times repeated, proved that crabs do not feed upon the mancinella and rather than touch this pernicious fruit, actually perish with hunger.

It is probable that the ill effects sometimes produced from eating these crabs, may proceed from indigestion or cholera morbus, to which persons of certain idiosyncrasy are subject.

" Nor is this most poisonous of all plants without its medical use; for, by an easy and simple operation, its juice in the state of vapour extirpates those troublesome and obstinate fungi, the sequelæ of the yaws, called crabs and tubboes. The operation is this: a hole large enough being dug in the sand, alternate layers of charcoal and mancinella apple are laid in it. When the charcoal is well lighted, and a thick smoke arises, the patient is made to place the diseased foot over it; and a piece of thick osnaburgh is laid over all, to prevent the escape of the vapour. At the end of an hour the foot is removed, and the crabs, which before the application of the steam were hard and untractable, are now completely rotten, insomuch that without giving the least pain, they are picked out with a small-pointed knife."

This I have not ascertained by my own experience, but hope to have soon an opportunity of doing so, in my intended voyage to Guiana.

Though the mancinella tree be an object of terror to man, it is not entirely forsaken by animals. I have seen the black-bellied humming-bird (polytmus holosericeus, *Lin.*), the red-breasted humming-bird (trochilus auratus, *Lin.*), and others, feed on the spiders* which had extended their webs upon its leaves and branches, and the anolis (lacertus minor levis. Sloan.) watching motionless upon its trunk to prey upon the insects found there. Having heard it remarked by persons in Guadaloupe, that goats eat both the leaves and fruit of the mancinella, I tested this also by experience, which proved to me the contrary. Dr. Barton, of Philadelphia, tells us that horses and cows may eat with impunity the leaves of the rhus radicans. According to Thunberg, sheep eat the leaves of the rhus lucidum without being incommoded. And William Bartram assures us that horses are very fond of the leaves of the rhus toxicodendron. All these trees are as certainly venomous as the mancinella; still I know not that any quadruped could eat the leaves of this last without being poisoned. I discovered, however, one creature who made them its nourishment; so true it is that the earth produces nothing which does not participate in the reproduction of the animals which people it. The leaf of the mancinella nourishes a caterpillar, which, when arrived to its perfect state, measures only eight lines. This larva is at first of a pale green colour, but as it increases in size, and when about changing to a chrysalis, it becomes of a yellowish colour; its head very small and shining, and of the same colour with its body. With the naked eye no hair is observable on its body; but examined with the lens, some scattered ones are seen on each side, distant from each other. On the middle of the back, a very thin longitudinal line, of a brown colour, is apparent. It has six scaly feet, eight membranaceous, and two posterior; is extremely lively in its motions, and very voracious; whole branches of the mancinella are stripped of their leaves, so great is sometimes the number that live upon it. And it is remarkable, that in order to protect itself from the sea breeze and the fly-catcher, this caterpillar skilfully glues another leaf upon the one of which it devours the parenchim, leaving the membranous fibres almost untouched. But it is curious to observe this insect when about changing into a chrysalis: it then encloses itself in a leaf intended for its dwelling; for this purpose it places itself at the end of the leaf, where it fastens a thread, which, like that of the spider, proceeds from its mouth, and carrying it alternately from side to side, closes the leaf hermetically by drawing it together; this leaf is folded in such a way, that the upper side forms the interior of the lodging; and reaching that part of the leaf where the stem commences, the little animal, not being able to bring the sides exactly together, constructs a very firm web, which completely shuts up the opening. Having examined a great number of leaves thus folded, I have often found the caterpillar in a state more or less advanced of metamorphosis. Some were empty, and then the hole by which the insect had left its habitation was perceptible.

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* I have ascertained beyond all doubt, with the aid of a microscope, in examining the stomach of a great number of humming-birds here mentioned, that, independently of their sucking the sweet juice of flowers, they also feed upon small spiders and other insects.

The chrysalis is 4 lines in length, of a beautiful orange colour, and besides being so well shut up in the leaf, it is also enclosed in a silvery white egg; which double precaution is doubtless to preserve it from the injuries of the weather, as well as from the ants. The larva of the mancinella, which I nourished in a glass vase, remained in a chrysalis state fourteen days, and came out a beautiful *noctua*, measuring 3 lines from the head to the extremity of the wings, which, in a state of repose are closely united, entirely covering the body, and form a sort of cylinder. When thus folded, a transversal line was perceived at their base, and in the middle two truncated cones, whose bases were towards the head of the insect. These geometrical figures, of a brown colour, appeared on a ground of pale lilac, and produced a very pretty effect. This miller I have named Noctua Geometrica, and believe it has not been described by any naturalist.

Lamarck and Mirbel tell us, that "although the ill effects of the mancinella have been exaggerated, nevertheless it is probable that the neighbourhood of this tree may cause different diseases." It is the low and swampy grounds, impregnated by venomous miasma, where the mancinella grows, which is the real cause of diseases: such is my opinion.

Mr. Jacquin, without suffering any inconvenience, received upon his naked body the rain falling through the foliage of a mancinella tree. I have also found myself, during a shower, under the shade of a mancinella. and extending my hands purposely to catch the drops of rain that fell from its branches, never experienced any ill effects. The inhabitants of Guadaloupe, however, carefully avoid a similar shelter during the rain, fearing that the drops falling from the tree, should occasion an extremely painful eruption on the skin. This I think only happens in those circumstances when there arises from different parts of the mancinella that extremely volatile and caustic venenous vapour, which, being absorbed by individuals susceptible of the eruption, are inevitably affected by it. For the leaves, or their juice, as I will show, produce but a trifling inflammation on the skin of delicate persons, and act only on the mucus membranes as a poison.

But whenever this volatile poison, which escapes from the tree, affects a person, an eruption and tumefaction supervenes, with more or less febrile action, according to the idiosyncrasies of the person affected. The blisters produced by this eruption break, a yellowish and thick fluid runs out, and an extremely painful sore is the result of this absorption.

One day, digging some roots of the mancinella tree for my experiments, I was completely affected by the volatile poison which at that time had saturated the atmosphere around the tree.* I at first felt a heat in my face, and afterwards a burning like that occasioned by the scorching of the fire. This was in the evening: I passed a restless night, and the next morning my face was swelled. I applied no remedy, and towards noon, a great number of little vesicles filled with yellowish water were formed on my face. In the course of two days these vesicles all disappeared, leaving a total disquamation. Having probably absorbed but a small portion of this volatile poison, the vesicles arising from it were scarcely larger than the head of a pin, for which reason they left no ulcers. During the course of the inflammation all the other symptoms were benign.

(*To be continued.*)

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* It is a fact, that a venenous atmosphere around the mancinella does not always exist. It was in this case produced by my work, viz. digging up the roots, from which I received in my face the first vapour exhaled from them as they were taken from the ground.

ART. VII. *On the medicinal properties of the* ACORUS CALAMUS. By EDWARD G. LUDLOW, M. D. of New-York.

Omnia orta occidunt et orta senescunt.—SALLUST.

FASHION sways medicine as it does every thing else, and such is the ardour of the present age, that the discovery of new remedies appears to be only commensurate with that of new diseases. If in the exercise of this laudable zeal for progressive improvement, the practical results of the past were always retained, and its crudities alone rejected, we should not daily have to rescue from unmerited oblivion many medicines whose virtues have been tested by the experience of centuries.

Among those whose impending fate has elicited this remark is the Acorus Calamus, an indigenous plant of this country, whose medicinal powers are hardly noticed in any of our recent works on the materia medica. In Europe it is in high repute, and is correctly deemed one of the most efficacious of the vegetable stomachics.

In tracing its history, it appears to have been first noticed by travellers in China, as growing in pots in the houses of the affluent, being cultivated for its aromatic odour. It is, however, abundant in the Levant, throughout Europe, and this country. It is commonly known by the name of the sweet-scented flag, and grows in rivulets and marshy places. The root, which is the part employed in medicine, is crooked and full of joints, of a fragrant odour, and bitter pungent taste; the latter qualities improving when dried. According to Dr. Paris, " the principles in which its qualities reside appear to be an essential oil and bitter extractive, the root likewise contains fecula, which is copiously precipitated from its infusion by sub acetate and acetate of lead."

It was well known to both the Greeks and Arabians, and is thus noticed by Diascorides: " Calamus odoratus in India nascitur, melior est fulvus dense geniculata et qui assulose frangitur, plena araneorum fistula, albicans lentus in mandando, et astringens ac cum aliquanta acrimonia amarus."

Linnæus considers the names of odoratus and aromaticus as synonymous, being indiscriminately applied to the imported species, of which the acorus is a mere variety; in neither, however, has the astringent principle been detected, which is the only error in this otherwise accurate description.

It has been said to have cured intermittents when bark has failed, and is enumerated by Lind among the popular remedies in these diseases, as given in doses of ʒj nine mornings successively. Heberden also, speaking of intermittents, says, "I have given in some extraordinary cases ℈ij of calamus aromaticus, and have found it more efficacious than a variety of other means which had been previously directed." That it is a valuable adjuvant to the cinchona in the cure of these diseases is very probable, although, like all other substitutes, it is far from being specific.

It was one of the principal ingredients in the once celebrated Theriaca and Mithridate, laboured compositions which are now justly excluded from our pharmacopœia.

In Constantinople, it is employed as a prophylactic against contagion.

The diseases in which I have used it are exclusively those of the chylopoietic viscera, as dyspepsia, diarrhœa, and cholera. Dyspeptic affections being dependent on debility in the nervous and muscular powers of the digestive organs, such medicines are indicated as increase their action and augment their tone; among these the vegetable tonics are chiefly relied on as affording in their infinite variety every necessary invigorating power.

For the removal of pain and flatulence in the bowels, which may be enumerated among the most frequent and distressing symptoms of the first stage of indigestion, calamus is superior to any other carminative; by virtue of its aroma it creates a strong sensation of warmth in the stomach, increasing its action without sensibly augmenting the force of the circulation, while its powerful bitter principle gives permanent tone to the relaxed state of the fibres.

In those cases where a sympathetic diarrhœa or looseness exists, dependent upon an irritability of the intestines, I have found the tincture of calamus produce immediate relief. I have in recollection a dyspeptic patient who is invariably seized with purging when exposed to a cold damp wind, and which obstinately resists the usual narcotic and aromatic prescriptions, and with whom this medicine is a specific. In idiopathic diarrhœa, especially in its chronic form, it is highly efficacious. Doctor Swediaur gave it in the form of extract, in doses of ʒſs. in dyspepsia, and speaks highly in its favour. It also allays bilious vomitings in cholera, and is eminently useful in removing the weakness which exists in the decline of the disease; it may be given in watery infusion, which partially extracts its virtues, though its best solvent is proof spirit, which, when the dried root is employed, affords an elegant tincture, of which the dose is ʒſs to ℥j.

ART. VIII. *Account of a Case of* DROPSY. By L. RING, M. D. of Red-Hook, N. Y.

ON the 17th of November, 1823, I was requested to visit Ann M——n, an unmarried female, aged 48 years, predisposed to phthisis, has a long neck, rather prominent shoulders, and contracted chest, fine clear skin, and delicate rosy complexion. She had been for about a year labouring under a complaint which was attended with dry hard cough, some enlargement of the abdomen, constipation of her bowels, pain in her right side, and scanty discharge of urine. The above symptoms, for some weeks previous to my seeing her, were increasing rapidly, and on my first visit I found her labouring under the following unpleasant symptoms: violent dry cough, pain and tumefaction in the right hypochondrium, her abdomen was a good deal swollen and tense, small but frequent pulse, dry skin, flushed countenance; but she experienced no chills, her respiration very little interrupted, her bowels were constipated, voided small quantity of urine, thirst considerable, her tongue not coated, her appetite was tolerably good, and she had not for some time been regularly visited by the catamenial discharges.

From the above symptoms I was induced to consider her liver in a morbid state, her cough merely symptomatic, and that the disease would eventually terminate in a dropsy of the diffused kind, unless it was speedily checked. After ordering a cathartic, I put her under the use of calomel and scilla, of which three pills were to be taken in a day.

On the 22d, her system had become saturated with the calomel. Discovering no change in the symptoms, I ordered two pills a day to be continued with some simple diuretic, and an epispastic to be applied to her side.

The above plan was continued till the 6th December, and no visible change had taken place in her case. From this time to the 27th she took no medicine, wishing to trust her case to nature. Her disease during this interval increased very rapidly, her abdomen became greatly distended, her cough was more aggravating, the pain and tumefaction in her side were almost insupportable, she voided about a gill of urine in twenty-four hours, and her pulse was still small. I was aware that some more active plan must be adopted in her case, I therefore abstracted ℥xii of blood, which, from its having a thick sizy crust, convinced me of its propriety. The calomel and scilla were again ordered, and after taking twelve pills, her system again became saturated. Advised a continuance of two pills a day, and on the 3d January, ℥xii blood more were taken; pills continued.

7th. No change in her case; bled as above, and pills continued.

12th. She is much the same; bled as above, and pills continued.

20th. Cough somewhat abated; bled her ℥x. pills discontinued.

22d. She had an attack of dysenteric symptoms, attended with nausea, and discharge of blood by stool: she also experienced great prostration of strength. Ordered ℥j ol. ricini, with forty drops of laudanum, which removed the above symptoms. I considered the last attack indicative of a crisis having formed in the liver, and a favourable termination. Her cough, pain, and tumefaction of her side, now subsided; her pulse natural; no flush in her countenance; but her abdomen was still fully distended. I ordered her an emetic every second day for a week, which caused her to discharge freely from the stomach, and powerfully to evacuate from her bowels, but it had no apparent effect upon her disease, except that she had a return of the catamenial discharge.

January 30th. I now considered her case a proper one for the exhibition of digitalis, and she was accordingly directed to take Dr. Withering's infusion of digitalis, which was continued till the middle of February, without her experiencing the least benefit. It, however, produced a loss of appetite, and great prostration of strength. About this time her lower extremities began to swell, which in a few days increased to an enormous size.

February 15th. I at this time began to consider my patient in a very unpleasant situation, after having used so many powerful evacuants and diuretics without the least prospect of evacuating the effused water from the system. The abdominal muscles were distended to their utmost extent, the cellular substance of her limbs filled with water, she could not lie in a horizontal posture, she required large quantities of laudanum to give her temporary relief, her strength greatly exhausted, and her spirits very much depressed. Under these discouraging circumstances I commenced the following plan.—I made five punctures in each ancle with a common lancet, and directed a flannel bandage to be applied from the toes to the hips, and also a broad flannel bandage around the abdomen up to the lower part of the thorax. Then I gave the following pill in connexion with a strong decoction of the asclepias seriaca:

℞ Cantharis pulv. ℈ſs.
Digitalis pulv. ℈j.
Sapo castel. ℥j.
M. ft. massa in pillulas xx dividenda, three of which were taken a day.

The discharge from the punctures was copious, and the pills, &c. produced an apparent effect upon the kidneys. This plan was continued till the 8th of March, when I expected she would bear the carbonas ferri in connexion with the pills; but her stomach rejected it. About this time the orifices at her ancles closed, and considerable excoriation took place, which produced troublesome ulcers; in other respects, no visible change had occurred. The same plan was continued till the 17th; when, about 2 o'clock P. M., a very alarming change suddenly took place; her extremities became cold; her pulsation ceased; her countenance was ghastly; her respiration was hurried and laborious, and she repeatedly expressed an anxious solicitude to be relieved from her miseries by death. At 8 P. M. her respiration became more laborious, her countenance more ghastly, her face cold and covered with sweat. I now expected that a few hours more would put an end to her agonies. Wine, with the compound spirits of lavender, was given, and she remained in this state of misery and suspense till the 19th, about 6 o'clock A. M., when her extremities became warm, her pulsation returned, and she took some nourishment. Her situation was now really deplorable; her abdomen was greatly distended, and the cellular substance from the feet upwards was filled with water, which rendered her perfectly helpless. The operation of paracentesis abdominis would have been immediately resorted to, but I was sensible that she was too weak to undergo the change that would take place by the discharge of the water. I again resorted to the pills as above, but increased the cantharis to one and a half grains, and added one grain of calomel to each pill. In a few days her gums became slightly affected; the calomel was then discontinued; her appetite now began to improve, and with it she gained in strength. From this time till the 14th of June, very little change was observed, except that she had improved so much in strength, that on that day, in the presence of two medical gentlemen, four gallons of water were evacuated by the operation of paracentesis abdominis; and all present were astonished to see how she sustained the change that took place in her system by the loss of so much water. About two hours after the operation, she was seized with a sharp pain, which extended from the back to the breast; pulse small, but regular. I directed fifty drops of laudanum to be given, and to be repeated once an hour till relief was obtained. Two hundred and fifty drops were taken without having the least effect.

15th. Pain continued; she had voided between four and five quarts of urine during the preceding night, which removed the swelling from her limbs. A cathartic of sennæ fol. and sem. anis. was ordered, with an epispastic, if the pain should continue after its operation.

16th. Pain relieved by the epispastic; some cough succeeds the pain. She now commenced the use of carbonas ferri with digitalis. She bore the tonics well; her appetite improved, and with it she gained much in strength.

July 10th. She began to walk with the use of a cane; her evacuations were natural and regular.

21st. She rode about two miles, and felt invigorated by the ride.

23d. She rode about four miles, and felt much stronger and better. From this time she took proper exercise in riding, together with the chalybeates, and an improvement in her health was daily visible.

August 1st. I at present consider her out of all danger of a relapse; her lungs are perfectly sound, her cough has left her, and her pulse is really fine. She at present takes thirty grains of carbonas ferri in a day, without experiencing the least uneasiness, and her appetite is good.

25th. She is at present at Kingston, in Ulster county, visiting her friends, and enjoys remarkable health after so long and tedious a confinement.

Art. IX. Observations *on the efficacy of scruple doses of* Calomel *in* Dysentery. By Daniel L. M. Peixotto. M. D. of New-York.

There is, probably, no disease in which so many varied modes of treatment have been pursued, and with apparently equal degrees of success, as in dysentery. The bleeding, the emetic, the purgative, the sudorific, the tonic, the anodyne, and finally the mercurial plans, have all had their warm advocates, and been recommended on the strongest grounds of experience and of theory. To any one who has investigated the history of this disease, this inconsistency will not appear other than a seeming one. It was early observed by Sydenham to be a feature of dysentery, that it differs very much in the appearance of its symptoms in different years, and, as he supposed, according to the peculiar epidemic constitution of the air, and that it required corresponding changes in the treatment. Experience in later times serves to confirm the observation of this profound and acute physician. Many physicians, not adverting, however, to this change in the appearance of dysentery, have insisted upon some one form, which they have observed it to assume, as the only legitimate test of its presence. They have gone farther, and refused their sanction to any plan of treatment excepting that which they found appropriate to that peculiar form of the disease which fell under their own limited observation, and which served as the basis to their restricted theories on the subject. Hence young physicians, especially, have encountered difficulties of no ordinary nature, when they have been first called upon to manage this formidable disease. If they are biassed by any peculiar theory, and consequently restrict themselves to one method of treatment, it is indeed possible that a fortunate coincidence may render their views appropriate at the peculiar juncture they are called upon to act, but there is surely every probability that they may be wrong. If, on the other hand, they are not swayed by any one rule in relation to treatment, they will find themselves at a loss, and probably commit extensive mischief, before a sufficient experience in the disease enables them to discover its true character and the indications which it presents. Nor is this uncertainty confined to young physicians only. Older men, however experienced, cannot immediately ascertain what is the character of a prevailing epidemic, nor what means will be required for its treatment, and they will be fortunate if, like Sydenham, they lose only a few patients before they arrive at a satisfactory and safe conclusion.

From all this, it will appear evident that the theories which have in general been entertained in relation to dysentery, have been too exclusive, and not based upon experience as ample and extensive as the subject admitted and required. Of late years, a great improvement has indeed taken place, and the labours of the East India physicians, and of none more than Dr. James Johnson, the able author of the treatise on tropical climates, have thrown the most satisfactory light upon this subject. The theory adopted by this gentleman, more especially, leads to indications, which, it appears to me, can be applied with success "in almost every case and every climate." The disturbance in the functions of the skin and of the liver, the broken balance of the circulation and the excitability, the consequent plethora in the cœliac and mesenteric circles, and finally, the perspiration being stopped, a vicarious discharge of mucus and acrid serum upon the intestines are sufficient to account for every symptom of dysentery, under whatever form it may appear. This view of the subject is recommended too, by the advantages it offers of combining, if necessary, all the other modes of treating the disease. It is certainly not shackled with restrictions, and this circumstance alone speaks volumes in its favour. It has not, however, been passed by without opposition. The excessive use of mercury it inculcates, has been decried against with particular vehemence, and by none more so, than by those who have been least qualified by experience to advocate or oppose any system whatever. Some have gone so far as to assert, that where mercury in this disease does no harm, it is because it passes through the bowels unchanged![*] Others, less dogmatical, have nevertheless rejected this doctrine, and the practice it inculcated, as inapplicable to any climate excepting that of the East Indies.[†] There is, however, sufficient proof at present before the medical public, that this theory and practice have been found no less useful in their application to the dysentery of the western hemisphere, than to that of the east. Nor has the test of its usefulness been confined to tropical climates. By the reports of Dr. Cheyne on the dysentery of Ireland, it appears that the East India practice of treating this disease by scruple doses of calomel, has been found highly serviceable in arresting this disorder in that country, where it has been, for ages past, known to prevail with peculiar malignity.[‡] During the late war, it was employed with eminent success on the New Orleans station, by Dr. Archibald Robertson, of the British army.[§] It appears, therefore, to have deserved more attention from the physicians of this country than it has as yet received.

Having had some experience in this disease, both in the West Indies and in this city, I have thought it would not be uninteresting to state the result of it, as it goes in a great measure to confirm the remarks already made. When I first went out to the tropics, I was impressed with a belief that idiopathic dysentery was a contagious fever of a typhoid character, in which the greatest evil to be apprehended, in a warm climate especially, was the tendency to putrescency. Depletion, therefore, was not to be used without the greatest caution, and the most powerful means to be resorted to were sudorifics. A few cases, however, sufficed to show me that no theory could be more erroneous than that which considered this as a disease of debility, and that no practice was more tedious and inert, than that which was founded on this view of the disease. Dysentery was indeed combined in some cases with typhus fever; but even here it was a disease of depression, not of debility, and antiseptics and alexipharmics were sure to do harm. One of the first cases of pure dysentery which fell under my observation, was, I have reason to fear, sacrificed to preconceived and false impressions in relation to the disease.

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[*] Hamilton on the abuse of Mercury.

[†] Thomas's Practice, &c.

[‡] By Sydenham it was called one of the *leaguer* diseases of that country.

[§] Johnson on Tropical Climates. vol. II.

CASE I.

It occurred in an English gentleman, aged 35, of full habit of body, and who had committed some irregularities in his diet, to which the disease was attributed. Chills, followed by a hot stage, ushered in the disease, which soon developed itself by uneasy sensations in the abdomen, frequent and ineffective attempts at stool, and occasional discharges of mucus and slime slightly tinged with blood, tenesmus, &c. This case so evidently required depletion, that I could not omit having recourse to the measure; but it was employed to a very limited degree, and the skin was afterwards principally attended to. The diaphoretic I used was calomel and antimony, and the patient improved under their use; but, unfortunately, feeling somewhat better one morning, he most imprudently indulged himself in a hearty breakfast, which, to use his own phrase, he washed down with a bottle of claret. The consequence may be readily imagined. In the evening the disease returned upon him with all its violence, Experience has since convinced me, that if I ever had been called upon to use the most powerful depletion, this was a most imperative case. But the fears of debility and putrescency, and the prostration of the patient, paralyzed my arm and blinded my judgment. The prophecy of Johnson, in relation to inert practitioners in this disease, was literally accomplished in my case. "Some mornings he sees, with astonishment, several inches of the rectum, that have passed off by stool in the night!" This happened in the present instance, five inches of the gut being expelled in one of his efforts at stool; and a few nights after, (gangrene having previously supervened,) the case terminated fatally.

I now rejected the views which I at first entertained, and determined on pursuing the plan, which, although it had been denominated bold, seemed called for by the powerful violence of the disease. The first instance which occurred thereafter, still further convinced me of the propriety of the measure.

CASE II.

Mrs. L. J——, aged 30, mother of seven children, and a native of Curaçao, was, in the eighth month of her pregnancy, seized with severe symptoms of dysentery, such as fever, pain in the bowels on pressure, tenesmus, tormina, bloody and mucous discharges, and a full and quick pulse. I was called to see her on the second day of her disease. No longer deterred by fears of debility and putrescency, I forthwith had recourse to measures of depletion, as far as the situation of the patient would admit of, and then put her on the use of calomel in large doses. Every one conversant with disease, will readily perceive the delicacy of the case, and the difficulties with which I had to contend, on account of her peculiar condition. On the one hand, a violent disease, requiring severe and active treatment, threatened her life; on the other was to be encountered the danger of abortion, from one or both of these causes. Tenesmus was particularly to be dreaded. This symptom was therefore to be obviated in particular, and for this purpose the injection of the balsam copaibæ was found admirably useful. This measure is recommended by Pemberton,* according to the following formula:

℞. Mucilag. amyli. . . ℥iv.
Balsam copaib. . . gtt. xl.
M. Ft. enema, octava quaque hora injiciendum.

Under this treatment my patient recovered. She took, in three days, nearly a hundred grains of calomel, but no salivation ensued, nor was any other inconvenience felt. She went her full time, and I saw her delivered of a fine and healthy child.

I now pursued this treatment with such modifications as were required by particular cases, in almost every instance which came under my care, and I had no cause ever to regret it. In a black woman, who had long suffered under the disease, it proved eminently successful. She had been so exhausted, partly by the long continuance of the disease, partly by the constant use of remedies, purgatives, emetics, and sudorifics, that an old physician who had attended her, dismissed her from his care as incurable. She then applied to me, and I accepted the case, rather out of pity for her helpless condition, than from any hope of success. Under the use of scruple doses of calomel combined with opium, aided by tonics, such as infusion of chamomile flowers, with the addition of milk, she unexpectedly recovered.

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* Pemberton's Treatise on Abdominal Diseases, p. 140.

During my visit to the Spanish Main, I had further opportunities of testing the virtues of this practice, and found it there equally successful as before. I may add too, that repeated instances of failure from the common modes pursued by the Dutch and Spanish physicians, fell under my notice. I had ample opportunities of witnessing this last fact, as the disease prevailed epidemically among the numerous Spanish emigrants at Curaçao, and the instances of fatal termination were but too frequent.

In New-York, I do not know that the treatment of dysentery by scruple doses of calomel, has been extensively tried. That it may be done so with safety, nay, with advantage, will appear from the following case. Before recording it, I may observe, that the objection which has been urged against the use of calomel in large doses, because it is inapplicable to the disease as it appears in the western hemisphere and in north latitudes, is altogether destitute of any force. The dysentery of the East Indies may indeed possess some characteristic and modifying symptoms which more pointedly indicate the use of mercury. But the modification it undergoes in other climes, is far from sufficient to constitute a difference in the essential phenomena, or, as it would be formerly called, in the proximate cause of the disease. The basis of the treatment must, therefore, be radically the same every where, and it is only requisite that the views of the practitioner be sufficiently comprehensive to enable him to grasp, with the same powerful means, properly modified, the dysentery of every climate.

CASE III.

W. H. S——, aged 26, of a fair complexion and delicate habit, called, on the 17th of August, 1823, at my office, complaining of a diarrhœa, under which he had been labouring several days. I gave him a dose of rhubarb and magnesia, which operated well, and afforded him much relief. Feeling better the ensuing day, he went in the evening to Chatham Garden. The night was rainy and cool, and the roof of the theatre, at that time, ill calculated to defend those who were seated under it. A day or two after, he was suddenly affected after dinner, with severe rigors, and general symptoms of incipient fever. After an hour's duration of the cold fit, a reaction took place: his skin became hot, pulse full and quick, tongue furred white, and he complained of headache. As there were at this very time two or three suspicious cases of fever in the neighbourhood (John-street), his situation excited some alarm. A dose of salts was administered; I ordered pediluvium, and constant ablution with tepid vinegar and water. Towards evening, the disease manifested itself; the salts had operated, but the stools were soon after evidently dysenteric. Calomel gr. iv was forthwith administered, combined with antimony gr. iv and opium gr. i. to be repeated every four hours. Next day the patient was rather worse, and the medicine was more frequently administered, by which the stools were soon changed in their appearance for the better. After a few days he was considered convalescent, when he unadvisedly got up, dressed himself, and walked over a floor which was yet damp from scrubbing. The consequence was, that he immediately relapsed, the stools were increased in number, and looked worse than they had done before. They were green, mixed with streaks of blood and curdled pieces of mucus like cheese, and the tenesmus and tormina were excruciating. Twenty grains of calomel were now administered every six or eight hours, to which a grain of opium was occasionally added, according to circumstances. An ounce of castor oil was also interposed at times, to expedite a natural stool. From this treatment the patient did not immediately seem to benefit; but it was notwithstanding continued, with the most confident hope of success. On the fourth day, symptoms of amelioration took place; the stools became more natural; the tenesmus and tormina were diminished, and the functions of both the skin and the liver were to a degree restored. Two scruple doses only were administered on this day and on the fifth. The sixth day only one dose was given, after which he was quite relieved, and gradually recovered. In this case no salivation was induced, although nearly three hundred grains of calomel had been taken in the short space of six days, exclusive of the quantity administered before the relapse. Neither has the patient, at any subsequent period, experienced the least inconvenience from the foregoing treatment.

It will therefore appear, that this practice is, to say the least of it, safe, and, judging from other cases which have since fallen under my observation, I feel convinced that it is more speedily efficacious than any other to which recourse can be had in the severe forms of this disease.

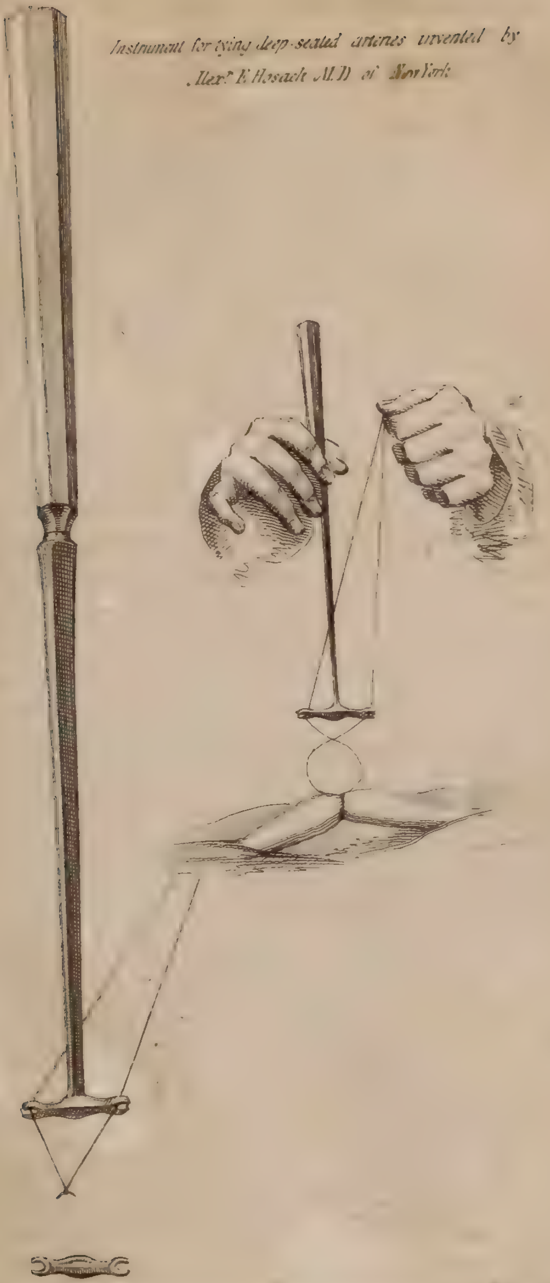
ART. X. NOTICE *of a* NEW INSTRUMENT *for Tying deep-seated Arteries; invented by* ALEXANDER E. HOSACK, M.D. Communicated in a letter to Professor ANDREW DUNCAN, of the University of Edinburgh, from DAVID HOSACK, M. D. &c. New-York.—(*With a Plate.*)

New-York, June 2d, 1824.

DEAR SIR,

IN the last number of your new series, as well as in the sixteenth volume of the first series of the Edinburgh Medical and Surgical Journal, you have exhibited different instruments which have lately been invented for tying deep-seated arteries. From the view of those, I am induced to enclose you the plan of another instrument, lately proposed for the same purpose by my son, Dr. Alexander E. Hosack. As you perceive by the annexed drawing, this instrument is simple; its construction easily applied to the deep-seated vessel; and it preserves

Instrument for tying deep-seated arteries invented by
Alex^r E. Hosack M.D of New York



the threads at such distance, that upon tying the second knot the first remains perfectly undisturbed. I beg leave to add, that it has received the approbation of the Professors of Surgery in the medical schools of Philadelphia and New-York.

Mr. Williamson, of Edinburgh, who does me the favour to convey to you this note, is also the bearer of the instrument itself, which, after you have examined, I beg you to present to our friend and fellow student, Dr. Thompson, the Professor of Military Surgery in your University.

I am, dear Sir, with great regard and esteem, yours,

D. HOSACK.

ART. IX. CASE *of* ANTHRAX, *successfully treated.* Communicated in a letter to DAVID HOSACK, M.D. &c. By PETER S. TOWNSEND, M. D. of Nassau, New Providence, W. Ind.

THE subject of the following case is Mr. Gardner Baker, a tall, athletic man, of about 60 years of age, born in Long Island, in the State of New-York, and an early emigrant to the West Indies. The disease commenced on the 5th day of May, 1824, in the usual manner by a small pimple, which was mistaken for a boil, and treated as such, with poultices, until the tumefaction had extended so far as to induce them to send for medical aid.

I saw him first May the 9th. The tumour was then of a circular shape, about seven inches in diameter, and elevated about half an inch above the surface of the back, resembling in shape the bottom or bulging part of a dining plate inverted. It was of a deep bluish purple colour in the centre, and of a reddish purple towards the circumference or outer margin, where the tumour pitted on pressure of the finger, and appeared to be somewhat œdematous. The surface was perforated in a thousand places with small festers, which, however, were not elevated above the cuticle. From these, when broken, oozed out an unhealthy pus. In some places there were ulcerations, from whence issued a bloody sanies. There had been for the first two or three days considerable constitutional fever, but at present the pulse was slow and feeble, and the skin cool. I recommended to Dr. Tynes, who attended in connexion with myself, the treatment so successfully employed by you in the case described in your letter to Dr. Pearson of London. We commenced with the antiseptic poultice of charcoal, alcohol, bark, and Indian meal. The general treatment consisted of tonics and generous living, as decoction of bark and infusion of snake root combined, brandy toddy, porter, port wine, sangaree, rich soups, jellies, &c. and every night or oftener, as occasion required, one or two grains of crude opium in pills, which last had the happiest effect, in tranquillizing the system, and subduing the extreme irritability and restlessness of which he complained.

May 10th. He has not had at any time severe pain. To-day he has incessant hiccup, and great difficulty of deglutition, the œsophagus seeming contracted, to use his own expression, to the size of a small quill.

May 15th. The surface of the tumour beset with innumerable small pustular perforations as before mentioned, which communicate with the internal cellular parenchyma of the tumour, but very few discharge. The more central parts of the tumour ulcerated into long, deep, foul, irregular fissures, which discharge very little. No fætor is emitted from any part of the tumour. Takes scarcely any nourishment, except some of his drinks, and then through a quill, and very seldom. The body of the tumour is less elevated, and softer, but the purple colour is deeper, and the constitutional strength more impaired. The hiccup declined to day, and at night entirely left him.

May 17th. Great improvement—hiccup left him, and his gullet, he says, appears to have broken away, and he swallows without difficulty.—Was not the affection of the œsophagus and diaphragm owing to the proximity of the tumour to the cervical vertebræ, and of course to the origin of the nerves which supply those parts? The central part of the tumour has now broken away into a raw surface, intersected by irregularly shaped cells of unequal size, divided by decussatory filaments and dissepementa, from whence the pus is now poured out very abundantly, so as to wet all the dressings. It is of a dirty, unhealthy colour. The cuticle on the outer parts of the tumour is not broken, and remains, as before, perforated by pustular openings.

May 19th. As his digestion is now so much improved that he takes his food and drinks freely, his bowels have become somewhat loose, owing perhaps, too, in some measure to the absorption of pus, which still continues to be discharged very copiously, so much so that the tumour has become quite flabby and rugated, and dependent at the lower part. The purple colour remains around it in a broad margin.

May 22d. The teguments and subjacent muscles on the central part of the tumour, and which for the last few days assumed the character of a membranous operculum to the excavation underneath, and which served the purpose of adhesive straps, to hold the opposing flaps together, now began to slough away, and to become separated from the outer parts of the tumour, which exhibited a reddish, fleshy, and healthy edge.

May 24th. The membranous slough which is stretched over the cavity, serves as a covering to prevent the too free admission of air, and the interstices between it and the margin above and below, allow a free evacuation to the pus, which is now thicker and of better colour. These openings also enable us to syringe the cavity freely with castile soap, rum and water, to which is added a decoction of bark. The depth of the cavity is about two and a half inches, and the muscular tissue of the back has been destroyed to such extent, that the spinous processes of the dorsal vertebræ and the posterior edges of the scapulæ are almost denuded. Has hitherto lain on his belly—begins now to lie on his side and back.

May 25th. The slough has come away entirely, leaving the cavity open, except about two inches of its circumference, which is covered by fleshy, loose flaps of a purple colour. From the edges of these flaps, and from the bottom of the cavity, healthy granulations are shooting out. Emits some fætor.

May 29th. The fætor has gone. Large granulations are filling up the cavity, and those from the edges of the flaps are shooting down into and adhering to them. Has not of late sat up to be dressed.

June 16th. He has been rapidly improving. Now walks about, and smokes his pipe, and feels his general health as good as ever. The purple colour of the flaps still remains. The cavity is nearly filled up. Four bolsters are used to serve as pressure upon the four sides which the flaps make, and a figure-of-eight bandage going under the arm-pits and over the shoulders. Very little discharge takes place. The same poultice and treatment is continued. The flaps are syringed underneath with a stimulating astringent lotion. The cavity diagonally is about five and a half inches.

You will be pleased to know that the treatment you have advised for this disease has succeeded so well in this aggravated case.

ART. XII. *On the* MOMORDICA ELATERIUM *and* CROTON TIGLIUM. By JOHN W. FRANCIS, M. D. &c.

> Multa renascentur, quæ jam cecidere; cadentque
> Quæ nunc sunt in honore, vocabula.—HORACE.

THE influence which the Roman poet ascribes to custom in the use of words is perhaps still more strongly applicable to numerous articles of the materia medica. In tracing the history of many remedial agents, it is impossible not to observe that the lawless power of fashion is as manifest and imperious among the sages of the profession, as in affairs wherein mankind have agreed to surrender themselves up voluntarily to its capricious dominion. We can scarcely otherwise account for the various fortune which the articles at the head of this paper, in common with others that might be enumerated, have experienced: at one time among the daily prescriptions of physicians, then in utter disuse or oblivion, and then again to be added to the list of our most efficient remedies.

Within a few years, the Elaterium and the Oil of Croton have each found favour in the eyes of the most intelligent British practitioners, in the treatment of cases which had obstinately resisted the best applied powers of appropriate medicines. The difficulty of obtaining these articles in their purity, is probably the most manifestly assignable cause why they have not been more generally prescribed by American physicians.

I first became practically acquainted with the medicinal qualities of the momordica elaterium in some casual visits to Manchester Infirmary in the autumn of 1815. The late excellent Dr. Ferriar, then just deceased, had introduced this potent article into the pharmacopœia of that extensive charity, and the clinical experience of that house fully justified what he set forth concerning its salutiferous properties. As an active cathartic, the elaterium had been long known: as an efficient agent to fulfil the indications of a powerful hydragogue, the most ample proofs were here presented. With this view, mainly, was the elaterium had recourse to by Dr. Ferriar. Having been disappointed by other hydragogues in a case of general dropsy he was induced to revive the use of the extract of elaterium, and I am persuaded that all he has advanced concerning this preparation, as a more certain remedy in dropsical complaints than any other now administered, is founded on well attested facts, and can easily be proved to the satifaction of every faithful observer.

The various and improper purposes for which the ancients employed the elaterium were doubtless in no inconsiderable degree the principal cause of its ultimately falling into disuse. We find Hippocrates noticing it as a most forcible cathartic, as capable of bringing on labour pains, and of expelling the fœtus, &c. Dioscorides, in remarking on its effects, observes: "Menses quoque ciet, partusque necat."* In cases of difficult respiration, whether depending on dropsy or on asthma, it was also given. Sydenham, Hoffman, and others, strongly enjoined its use in dropsy, and many earnestly contended for its efficacy in epilepsy and mania.* It was also applied externally as well as given internally. Its external use was particularly enforced for the relief of angina. Moreover, it would seem, that the term elaterium was applied by the ancients to several violent purgatives. Besides these causes of its loss of reputation, we find that different parts of the elaterium were in use to fulfil different indications, and likewise that the doses of different prescribers varied in quantity as well as in force. Hippocrates states the dose at ten grains. Dioscorides mentions the same in some places at five and at others at ten grains.—" Intergra dosis eius est, obolus ; minima, semiobolus." Fernelius at twenty grains ; Bontius, from one scruple to thirty grains. Boerhaave at five grains.† It is hard to account for these large quantities of the elaterium recommended by the ancient physicians, especially when we consider that the practitioners of the present time limit its dose to half a grain or a grain. Dr. Milligan, in a paper on the doses of the ancient physicians, has endeavoured to show, and I think successfully, that the difficulty is to be solved by supposing that in order to conceal the art of prescribing from the vulgar. the ancient physicians intentionally falsified their quantities, and, for convenience, did it always in a certain uniformly quadruple ratio : employing weights, indeed, graduated like those in common use, but secretly understood to be subject to this fourfold division.‡ Dr. Arbuthnot long since appears to have been of nearly the same opinion.§

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* Lib. iv.

I refer to Dr. Paris's Pharmacologia for much information concerning the proximate analysis of the elaterium. The late experiments of Dr. Clutterbuck most conclusively show, that the active powers of this substance reside almost entirely, if not altogether, in a limpid fluid contained in the centre of the cucumber, and that no other portion of the plant possesses any active properties. "The active principle of this plant," says he,* "is neither lodged in the roots, leaves, flowers, nor stalks, in any considerable quantity; nor is it to be found in the body of the fruit, or in the seeds, but in the juice around the seeds." The material which is obtained from this juice, without pressure, is the genuine elaterium, the quantity of which is so small, that Dr. Clutterbuck procured only six grains from forty cucumbers. Dr. Paris, by experiments, gives it as his opinion, that only one grain in ten of the elaterium as it occurs in commerce possesses active properties, and to this part of its proximate principle he has given the name *elatin*.

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* Morton's Works.—Lister, De Hydrope.—Murray's Apparatus Medicaminum, Vol. I.—Alston's Materia Medica. &c.

† Dioscorid. Opera.—Murray's Apparatus Medicam.

‡ Milligan in Edin. Med. & Surg. Journal, April, 1820.

§ Ancient Weights and Measures.

The elaterium which I have occasionally used in prescription for seven years past, I obtained while in England. Experience has proved that it was such as might fully be depended upon. Hence the small doses to which I limited its administration. It is assuredly one of the most active of the articles of the materia medica; and applicable to many cases in which, so far as I can learn, it has not yet been given. As a drastic purgative, it may accomplish much in cases where our most approved cathartics frequently fail. Where local inflammation of the abdominal viscera exists, it must be preceded by the common antiphlogistic means; and extreme caution ought always to be exercised in using it in habits greatly debilitated by dropsy, chronic diarrhœa, and long protracted hepatic obstruction. Whatever may be our theories as to the causes and nature of dropsy, the disease is known to be of frequent occurrence and lamentable fatality. In a large majority of instances, the disorder may safely be referred to an increased action of the vessels, and a consequent increased secretion of the serous fluid. After blood-letting, our means of relief are generally placed upon the scilla maritima alone, or united with small quantities of mercury. The elaterium in this form of dropsy will sometimes happily fulfil our indications. It may be questioned whether, in the passive stage of this disorder, the digitalis can ever be given advantageously: in this discouraging condition, where no organic derangement is present, the elaterium often possesses adequate powers of relief.

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* London Med. Repository, Vol. XII.

Dr. Ferriar has shown that it surpasses every other medicine in removing serous accumulations, and in relieving dyspnœa, arising from hydrothorax and ascites; and the twenty cases he has recorded, briefly as the particulars are related, are in confirmation. "The sensible effects of the elaterium," observes Dr. F. "are severe and constant nausea, frequent watery stools, and in considerable doses vomiting. It does not uniformly increase the urine, and for this reason it is generally proper to combine it with more certain diuretics. After continuing the use of the medicine for some days, the patient will sometimes bear a considerable increase of the dose. I have gone to the extent of five or six grains a day, in this manner, without producing any inconvenience. But it is always proper to begin with the lowest dose, which is a sixteenth part of a grain of the extract."*

I feel persuaded, that a more valuable or certain prescription than the elaterium for the purpose of mitigating the urgent symptoms of hydrothorax, if not of wholly removing the disorder cannot be found. It will often produce almost immediate relief, by frequent and copious watery alvine discharges, while its action is also occasionally manifested in the great increase of urine.

In some cases of ascites and anasarca, in which the squill, calomel, milk weed (asclepias syriaca), cremor tartar, jalap, gamboge, and other diuretics have been administered without their expected results, the elaterium has answered the desired effect. In the case of a gentleman, from the south, aged about 37 years, who had previously suffered several attacks of fever, and whose system was now labouring under dropsy in its combined form of hydrothorax and ascites, I prescribed the elaterium in quarter of a grain doses, morning, noon and evening. At the end of the second day the hydragogue effects of this medicine were conspicuous, notwithstanding all previous measures had proved unavailing on account of the torpid state of the intestines. He passed at least three quarts of fluid in each evacuation by the bowels, and was so far relieved as to be able to lie down in bed. His difficulty of breathing disappeared, and for a considerable time he enjoyed comparative ease and comfort. In another instance, of an elderly gentleman, (aged 69 years) suffering from ascites and an anasarcous state of the lower limbs, with great effusion in the scrotum, the approved means having failed, the elaterium prescribed to the extent of quarter of a grain four times a day, within forty-eight hours excited the action of the bowels, and he was disencumbered of full two gallons of fluid. I mention these particular examples of cases of disease in which we have no hope of ultimate success, because I think they satisfactorily show how efficient an agent we possess in the elaterium; and, to use the language of Dr. Ferriar, it is consolatory to have ascertained the efficacy of a remedy which seems to possess a complete power of removing simple effusion, and of at least alleviating the agonies arising from hydrothorax and ascites, even in the advanced stages of an incurable disease. Besides, it is deeply to be regretted, that through fear of its active qualities, physicians are so often deterred from its use even in such hopeless cases.

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* Med. Hist & Reflect. Vol. IV.

I might detail the particulars of several cases in which I have found it a safe and powerful hydragogue cathartic, answering all the indications to be fulfilled by remedies subservient to such purpose.

I have no experience of the effects of elaterium in arresting the paroxysm of gout. Dr. Sutton,* in the treatment of this disorder, has advised elaterium in combination with opium, with the view, as it appears, of increasing the action of the exhalent vessels of the alimentary canal and the secreting functions of the kidneys. " But when I reflect," says Dr. Scudamore, " on the uncertain operation of the elaterium, and its injurious violence occasionally, even in small doses, I can but consider, that unless in a sluggish state of the bowels which is also joined with anasarcous swelling in the extremities, its active nature should be rather dreaded than chosen as a regular remedy in gout. Under certain indications, and within proper limitations, however, it is a medicine as useful as it is powerful."† These objections of Dr. Scudamore to the use of the elaterium in gout are perhaps well founded; but they are more strongly applicable to the whole class of nostrums which have been recommended and enforced at different times as specifics for the removal of this intractable complaint. We have just reason to apprehend an impaired or depraved tone of the digestive functions in almost every sufferer from gout, and the elaterium, like other potent agents, must ever be administered with proper regard to the modifying influence of the constitution. Nevertheless, I am not aware that the digestive powers of the stomach are weakened, or the bowels rendered inactive by its use.

I have generally prescribed the elaterium in combination with cream of tartar. A judicious and prudent course seems to be to commence its use with a quarter or the third of a grain three or four times a day, and seldom exceeding two grains, three times a day.

It is deemed unnecessary further to particularize instances of the salutary results which have followed the use of the elaterium. The work of Dr. Ferriar may be consulted by those desirous of conclusive testimony in behalf of this revived remedy. In the New-York Hospital, the good effects of the elaterium have recently been seen in several cases under the care of Dr. Hosack, one of the physicians of that institution. I also learned from Dr. W. Smith, of the United States' Navy, that it was lately found a safe and efficacious hydragogue cathartic in the practice of Dr. Thomas Williamson at the Naval Hospital at Gosport, Virginia.

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* Tracts on Gout.

† Scudamore on Gout, third edition.

Croton Tiglium. This recently revived article of the materia medica has deservedly attracted the attention of the profession. As a hydragogue purgative it has been long known. Its active principle, it would appear, is a resinous matter, and Dr. Paris thinks it bears a strong analogy to that separated from the elaterium. It is to be feared it may lose a part of its well deserved reputation from the variety of indications which physicians expect it to fulfil. In certainty of operation, I have found it to possess a decided preference over every other cathartic. A comparison has been instituted between the properties of the elaterium and the oil of croton. The elaterium I have known occasionally to disappoint in its hydragogue effects. The evacuations induced by it are copious and watery: the croton is generally more speedy in its action, and frequently produces such discharges as result from the saline purgatives. A half drop or a half grain, either in a fluid form or made into pill will almost invariably excite the bowels. I have given it in the earlier months of pregnancy with safety and advantage. When prescribed to the extent of two drops, it has sometimes occasioned tremor of the whole system, dizziness of sight, an oppressed respiration, and unsteadiness of hand. We hence learn to use it with much caution. It may prove peculiarly serviceable in torpidity of the bowels, because it does not irritate like aloes, scammony, and gamboge. Whether as an emmenagogue it lays claim to special notice, is yet to be determined. The facility with which it may be administered, as well as the certainty of its action, are circumstances of no small consideration in behalf of its more general use.*

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* See Beck's edition of Murray's Mat. Med.—Eberle's Therapeutics.

About six weeks since, a formidable case of *constipation of the bowels* yielded to the influence of the croton oil, after having obstinately resisted calomel and the whole tribe of accustomed evacuants. The patient, a male subject, (aged about 38 years,) had previously sustained an attack of intermittent fever, and now laboured under the obstruction nine days, when the croton was at length given. I directed two drops every two hours, to be taken with some grateful aromatic. After he had taken six drops, we desisted from its further use. The bowels resumed their wonted office within ten hours from the time he took the first dose of the oil. After several copious passages, his safety was secured.

REVIEW.

Art. I. *A Practical Essay on* Typhus Fever. By N. Smith, M. D. Professor of the Theory and Practice of Physic and Surgery in Yale College. New-York. E. Bliss & E. White. 1824. pp. 88.

We must confess that the expectations, which, from the well known talents and experience of the author, we had been led to form of the merits of this little work, have not been fully realized. Nor do we think the apology offered in the preface, "for any carelessness of style or inattention to arrangement," altogether satisfactory. When an author is about appearing before the public, it becomes his duty no less than it is his interest, to pay particular attention to the *manner* in which he communicates his thoughts. It will not indeed be denied that a dry detail of facts is as useful in conveying to the public the mere results of an author's experience as an elaborate treatise composed with every attention to style and arrangement. There is, however, a wide difference in the two instances, in as far as the interests of our professional literature are in the one case neglected and compromised, and in the other promoted; and surely, from a professor in one of our first literary institutions, some deference was due to this important consideration. As Dr. Smith has, however, indulged his readers with a hope that he will, at some future period, enlarge his work, we shall look forward with pleasure to an improvement in this respect, and in the meantime pass from the *manner* to the matter of his book.

Dr. Smith maintains, that from the description given of typhus by writers in Europe, and more especially in England.

there cannot be a doubt, but that it is similar to the disease known here by the same name, and also by the various names of long fever, slow fever, nervous fever, putrid fever, &c. Dr. S. does not stop to prove this assertion; neither was it necessary. His whole book is a sufficient refutation of the idle opinions to the contrary which have been advanced by some few writers, who, to maintain an absurd argument, and to appear more profoundly wise than their neighbours, would distort the plainest facts, and reject the most conclusive testimony. It has been likewise denied by writers of much the same stamp, that typhus prevails in warm climates, or in the warm season of temperate climates. Dr. Smith thus meets this denial:

> "A late writer in one of our periodical journals, has advanced the opinion that typhus does not prevail in the warm season of temperate climates. This conjecture is unfounded, as *I have seen it* attended with all its characteristic marks *in every month*, and I believe I may say with truth, in every day of the year. *This fact might be attested by the whole medical faculty of New-England.*" p. 8.

How insignificant and unavailing is the boldest assertion and the most specious argument when thus confronted by plain matter of fact!

Our author has made particular inquiries to ascertain whether typhus was originally a disease of this country, but he has not as yet heard of an instance in which an aboriginal inhabitant has suffered from it. He acknowledges, however, that his inquiries have not been sufficiently extensive to warrant any conclusion on this subject. The observations of Dr. Rush, although of a general nature, and latterly those of Mr. Hunter, as published in the first volume of this Journal, incline us to believe that the disease does appear among the Indians when the causes which produce it among the whites are called into action among that people. This, however, we should suppose, *a priori*, from the habits of the Indians would but seldom be the case, and on this ground alone do we think their exemption from typhus will admit of explanation.

The following history of the appearance of the disease on Connecticut River will not prove unacceptable to our readers.

> "When I commenced the practice of physic in 1787, in Cornish, N. H. a town situated on the banks of the Connecticut River, I was informed by physicians, as well as the inhabitants who had resided many years in that part of the country, that about twenty years previous, a fever, which they had called *nervous*, had prevailed in that vicinity—had soon after disappeared, and, for the twenty years next succeeding, had not returned in a solitary instance. It was eight years after, during which time I visited the sick pretty extensively in that and the adjacent towns, before I saw or heard of a single case of typhous fever. I was then called into a family, one member of which had died of this disease, and another then lay sick of it. Soon after, I left this portion of country, and was absent for about eighteen months, and was in consequence unable to trace the course of the disease; but in 1798, a year after my return, it made its appearance in the village surrounding Dartmouth College, twenty miles distant from Cornish, and in several neighbouring towns simultaneously. From that time to the present, a lapse of more than twenty-five years, I have never so far lost sight of the disease, as to be unable to follow its changes from one place to another, and to tell where it was prevailing.
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> "During this same period, it has appeared in all the New-England states, and as far west as my knowledge extends. Indeed it seems to possess a migratory character, and travels from place to place, and, after remaining in one village for a longer or shorter time, as, from one year to two or three, it ceases and appears in another." P. 9–10.

Dr. Smith has not observed that situation has any influence in producing or preventing typhus. It affects persons living on mountains no less than those in the valleys, on the plains, and on banks of rivers, and on the borders of lakes and ponds. Nor, according to the experience of our author, have occupation or habits of life, filth or poverty, made any difference in the liability of persons to receive the disease. The rich and the middling classes have suffered equally with the poor. This coincides with the facts stated in the paper on contagious fever, which appeared in the Edinburgh Review for March 1819.

Is typhus a contagious disease?

Dr. Smith is of opinion that the contagiousness of typhus can be as fully demonstrated as that of measles, small pox, and other diseases universally allowed to be contagious. We are by no means prepared to agree with our author in the view here taken of this subject; and indeed we think he contradicts himself a page or two after, where he admits that "it is not so certainly and readily communicated as some other contagious diseases," (see p. 13.) How then, we would ask, can its contagiousness admit of as full demonstration as that of any disease universally allowed to be contagious? Our author next considers the arguments usually brought against the opinion that typhus is contagious, which, he says, are, that the contagion cannot be traced to its source, and that many persons exposed to it do not contract the disease. These objections, he adds, might be adduced against every contagious disease. Granting this, we may ask, are these, in fact, the only objections alleged against the belief for which Dr. S. is contending? We believe not. Among many other arguments which we have seen, we shall only state the following, and hope that they will, when Dr. Smith enjoys greater leisure, attract his attention.

First. The disease has no defined time of access.

Secondly. It has no determinate course to run.

Thirdly. It affects persons more than once.

Fourthly. It can be arrested in its progress. All these are characteristics which do not belong to contagious fevers; and although in other parts of his work Dr. S. will be found to deny them, yet, as they are matters of fact, resting on testimony the most ample and undeniable, we shall see that it is not so easy to get rid of them. Let us, however, consider the proofs which the respectable author adduces of the contagiousness of typhus.

First. The case of a young man, a pupil of Dr. S., who was attacked with typhus, from which he recovered. Some of his family, who lived about forty miles distant, came to visit and take care of him. On their return home they sickened with the same disease, and communicated it to others, who had not been exposed in the first instance. From this it spread to numerous other families. Dr. Smith further informs us, that in the town where this occurred, there had been no case of typhus for many years, till thus brought there by contagion. Conclusive as a fact of this sort may appear to Dr. Smith, we think it is any thing but satisfactory in proof of the contagion of typhus. It is not accompanied with a statement of those circumstances which are always required to strengthen the principal point to be established. We are not told the names of the towns, nor the time when the circumstances occurred, all which are necessary to be known, in order to arrive at full and correct understanding of the facts connected with the case. But even with the vague and scanty information before us, we think it not very difficult to explain the occurrence of the disease in the persons affected subsequently to the young man from whom all the mischief is suspected to be derived, without having recourse to contagion at all. That part of the family which sickened after their return home from the place in which they had attended to their sick member, it will scarcely be disputed, were in all probability subjected to the same causes which produced the disease in the young man. But it is asserted, that "they communicated it to others." How is this proved? Our author has himself informed us that the disease, after disappearing for years, will make its re-appearance simultaneously in many towns. Is it not possible then, nay, very probable, that the disease may have thus re-appeared at the same time, both in the town in which the young man sickened, and likewise in that in which his family resided? When we consider that the contagion of yellow fever has been supported on facts of this same nature, and disproved by an analysis of these very facts, have we not reason to doubt, at least in the present instance? That we cannot carry our analysis further is the fault of our author. There is another ground still, on which the non-contagionist would deny the agency of this property in the case before us. Several members of a family lying sick at the same time with a malignant disease, would probably generate such quantities of idio-koino miasm, as to produce the disease in all those who came within their influence, and thus, too, would contagion be set aside.

Second Case. During the prevalence of typhus in Thetfort, Vermont, a woman from Chelsea, ten miles distant, came there to administer to a sister affected with the prevailing disease. Upon her return home, she was herself attacked by it, and soon after died. Several of her family took the disease; and in the course of four weeks there were thirty persons affected, "all of whom," says Dr. S., "had been exposed to the contagion." The remarks made on the last case will be equally applicable to this and to the third case.

Our author next combats the opinion lately maintained by Armstrong, and also by Good, that typhus arises from other causes besides contagion, such as marsh miasmata, the epidemic state of the atmosphere, cold, fatigue, &c. He says, "if it can be communicated from one person to another, it has a specific cause; and I know no disease that arises from a specific cause, that can be produced without the agency of that cause." P. 14–5.

Admitting the reasoning of our author to be correct, which we are by no means prepared to do, we fear we shall be compelled to follow Armstrong, and virtually abandon contagion; for the mass of testimony in favour of the production of genuine typhus by causes independent of contagion, is so abundant as to do away with the possibility of contradiction.

By the following extract, our readers will perceive that Dr. Smith is no unitarian in his doctrines relating to fever.

> "The Typhous Fever, as far as my experience, which has been considerable, enables me to judge, is a disease *sui generis*, exhibiting as little variety in the different individuals affected by it, as some of the diseases which are acknowledged always to arise from contagion. If its duration is not so uniform as some of the contagious diseases, it is less irregular than others, which spring from specific causes, as for instance the intermitting fever." P. 15–16.

The experience of our author, which appears to have been considerable, is strongly in favour of the opinion that typhus rarely attacks the same individual twice, and this fact he adduces as a marked point of analogy between typhus and contagious diseases. He relates cases occurring in several families, in which all persons escaped who had been previously affected. On this statement we can only observe, that it is at variance with the experience of a great number of our most able physicians, both among contagionists and non-contagionists, as Hosack,[*] Galup,[†] &c.

If any additional proofs were still wanting of the fallacy of the theory of John Hunter, which denied that two morbid actions can exist simultaneously in the same system, they are furnished by the experience of our author. He has seen hooping cough and the most malignant dysentery co-existing in the same individual. Typhus he has seen often combined with dysentery, thus confirming the statement of Mr. Harty to the same purport; and he has likewise observed its combinations with epidemic catarrh.

In the mention our author makes of the diseases with which typhus is liable to be confounded, he omits simple inflammatory fever, and for this reason, that he has never observed a case of this disease in the long course of his observations. He tells us further, that although he has practised in all the Eastern States, excepting Rhode-Island, for thirty-five years, he never witnessed a single case of continued fever, excepting typhus, which was not either small pox, measles, &c. or sympathetic of local inflammation. Our author admits that typhus is occasionally combined with local inflammation; but he is evidently no disciple of Broussais or Clutterbuck. In this respect we are glad to see that the physicians of our country generally coincide with Dr. Smith. Not all the attractions of the most splendid hypotheses of the Italian and French schools, nor the brilliant eloquence by which they are supported, are sufficient to warp the minds of our calm and sober practitioners. Experience has too long enforced the distinction between idiopathic and sympathetic fever, for the mere hand of the theorist to brush it away in a moment: nor would such a result, could it be effected, be at all friendly to successful practice. Any doctrine, in fact, which inculcates.

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[*] Hosack's Medical Essays, vol. I., p. 260.

[*] Galup's Sketches of Epidemic Diseases, p. 98.

in a disease that varies in its aspect like fever, an exclusive reliance on one set of remedies, cannot stand the test of experience. It may, indeed, be found applicable to the diseases of a certain epidemic constitution, as Sydenham would designate them; but subsequent changes in this particular would soon expose its fallacy.

As far as our author has observed, typhus rarely terminates under fourteen days from its commencement, and its duration seldom exceeds sixty.

There is no distinction made, and we think justly, between the proximate cause and the disease itself. The essential phenomena of the disease are what the physician must expect to encounter and remove; and every thing beyond, is mere speculation and airy nothingness.

We recommend the following views, in relation to the probable course of febrile action, as ingenious and clear.

" As this fever is supposed to make considerable change in the action of the circulating system; the question presents itself, what part is first affected? Does the increased action of the heart and great arteries cause the increased action in the capillaries, or *vice versa?*

In cases of local inflammation, which produce symptomatic fever, it appears very evident that the capillaries are first effected; the action of the heart and great arteries is not changed till symptomatic fever is produced; and that this symptomatic fever seems to commence in the capillaries, is evinced by the paleness of the skin, and the chills with which its first appearance is accompanied.

" The analogy between the inflammatory and febrile action is so great, that we may with confidence rely on the similarity of cause.

" The paleness of the skin, and the sense of cold spoken of above, which attend inflammation, and precede the attack of fever, or the development of those phenomena to which we usually apply the name, and which is followed by an increase of the action of the heart and arteries, I explain in the following manner. Before the diseased action can take possession of the capillary vessels, the natural and healthy one must cease, unless disease is a mere increase of the healthy action, which we have abundant reason to believe is not the case. It is during this interim, that is, between the interruption of the natural healthy action, and the complete establishment of the diseased one, that the patient feels the chill.

" Something of this kind is observed in cases of local inflammation, which still continues to extend itself. A few lines beyond the discoloured part of the skin, between that and the portion which still retains its natural tint,

> there is a pale circle, evidently showing that the action of the capillaries in that part is suspended.
>
> When local inflammation proceeds so far as to produce symptomatic fever, a degree of paleness accompanied by chills, precedes the increase of heat.
>
> "Upon the whole, whether we consider typhus fever as dependent on local inflammation or not, it is probable, nay, it is very certain, that, like all other febrile diseases, the morbid action commences and continues principally in the capillary system, and that the change which we perceive in the action of the heart and great arteries, is symptomatic of the disease existing in that system.
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> "The most violent affections of the heart and large arteries, as in palpitation, do not produce the slightest symptoms of fever, which serves to show that these two parts of the circulating system have diseases as distinct and different from each other, as their functions." P. 25–28.

The detail of symptoms is very satisfactory. First are considered the changes which take place in the functions of animal life, such as affections of the mind, of the senses, of sensibility, and of the organs of voluntary motion. Secondly, those which occur in organic life; under which head are enumerated those of the respiratory, circulatory, and digestive organs; also those of secretion and excretion generally, including the effects produced on animal heat. Upon this subject we do not deem it necessary to follow our author, but we must quote the following curious instance of the affection of the moral principle. It will recall to the learned reader's memory some parallel examples in the writings of Rush.

> "It has appeared to me in some instances that the moral principle has been affected. One patient in particular, who had been extremely sick with this disease, after his recovery had a strong propensity to steal, and did in effect take some articles of clothing from a young man to whom he was under great obligations for the care he had taken of him during his sickness. He at length stole a horse and some money, was detected, and punished. I took some pains to inquire into the young man's former character, and found it good, and that his family were respectable." P. 32.

Dr. Smith has not been able to determine that any critical days exist in this disease, and he thinks it would be of little use, in a practical point of view, to do so; because, first, the disease comes on in so gradual a manner, that it is impossible to fix on the day of its commencement; and, secondly, when it terminates favourably, it often vanishes in the same slow and imperceptible manner. We believe that in this view Dr. Smith will be confirmed by the generality of American physicians, but for reasons somewhat different from those assigned by him. Their treatment is in general so energetic, that whatever power the disease may originally have had, and whatever virulence it may have displayed, if unrestricted in its course, it must soon yield, and the disease be forthwith arrested, or so far changed as to be materially altered in its appearance. Hence the descriptions of disease by the older physicians are seldom realised in modern experience. We are aware that Dr. Smith will object to the view we have here taken, as he is of opinion that typhus cannot be arrested in its progress. But by a reference to his arguments, they will be found extremely unsatisfactory. We are not disposed to deny the author's assertion, that he has never succeeded in cutting short a single state of typhus; but giving to this argument all the force which it merits, it amounts to no more than so much negative proof. But Dr. Smith observes, that it must be extremely difficult to decide when an incipient fever is suddenly broken, whether or not it would have been typhus. That there is some difficulty in the case, no one, we presume, will deny; but this difficulty will be greater or less according to circumstances, and under certain circumstances it may altogether vanish. For example: during the prevalence of an epidemic typhus in a small neighbourhood, or hospital, if an individual exposed to the causes of the fever, or, as Dr. Smith would say, to the contagion thereof, becomes affected with the same symptoms by which the disease was introduced in all those previously affected therewith, could there be any moral doubt as to its nature and the form it would assume? Would any experienced physician call in question the propriety of resorting to the most active remedies which were in use, for the purpose of subduing the prevailing disorder? He surely would not fear to encounter a case of yellow fever! Where the invading symptoms too are severe, as they often are, we cannot conceive the possibility of any difficulty in the diagnosis. The question, therefore, may be fairly put, have such cases been arrested? The histories of typhus contain so many instances of this, that it were doing injustice to our readers to suppose it necessary to quote them. We may, however, refer Dr. Smith to the pages of Drs. Miner and Tully, practitioners in his own state, for sufficient proof that the disease of which he treats has been repeatedly, nay often, arrested. We are surprised, in fact, that he should not have noticed their authority upon this subject, as it is founded on quite as ample experience as his own.

The author, therefore, rejects all measures in the commencement of the disorder, which are applied with a view of stopping short its career. He does not, however, neglect to attempt rendering its course milder and safer, and to enable the patient to live through it, but follows a method similar in principle to that advisable in small pox, or any other disease arising from a specific cause. It will at once appear that Dr. Smith is indebted to his belief in contagion for his rejection of the most important measure within the reach of a practitioner on his first encountering this disease. It is this which has paralyzed the efforts of so many physicians when they have been called upon to treat the plague, the yellow fever, dysentery, and all the host of fevers erroneously termed contagious. It has with some done still more injury; it has inspired them with imaginary fears of debility and putrefaction arising from the influence of contagion, and armed them with a whole phalanx of cordial, invigorating tonics, to oppose a disease under the strength of which the system is already labouring sufficiently, and from which it only asks to be free.

From some remarks which follow, we are somewhat inclined to the opinion that Dr. Smith has not met with many severe cases of typhus, otherwise he would not seriously insist, that all powerful remedies in the early stages of typhus are likely to *do harm!* The same opinion, we suspect, must be entertained of the physican who observed to Dr. Smith, that his entire treatment of typhus patients consisted in giving them milk and water through the whole course of the disease: that he had treated in this manner "quite a number of patients, and had not lost a single one!" From what we have seen and read of typhus, we should be loath indeed to make such an experiment, much less to recommend it to others.

Our author next inquires, if it is determined that something shall be done, what that something shall be? The first thing usually suggested is bloodletting. On this important measure our author has some very judicious remarks, which he premises by a short history of the opposite views entertained in relation to it by Cullen, Brown, and their disciples, and by Armstrong, Pritchard, and the physicians of the present day. In New-England, the physicians appear to be very much divided on this subject. One party employ bloodletting to a great extent in almost every case of this disorder; while another, impelled, as it were, by a re-action, have recourse to the most powerful stimulants, as opium, alcohol, Cayenne pepper, arsenic, &c. Dr. Smith has seen a written prescription of one of this latter class, in which opium, wine, alcohol, cantharides, and arsenic, were all directed to be taken several times in the course of twenty-four hours. As might be expected, both parties boast of success, and reproach each other with failure. For the equal success of these two opposite modes of treating the same disease, our author thinks that there are two ways of accounting. Either the disease is not so much under the control of bloodletting as they would have us believe, or these two extremes produce about an equal degree of mischief. To us this appears to be every thing but an explanation. It is in fact stating the same thing under a different form. The last position particularly is but the converse of the former assertion. Two opposite modes are equally successful, because the power of doing harm possessed by the one is not greater than that of the other. We should say that success in either was owing to the applicability of the treatment to the particular cases in which it proved beneficial. It will not be denied by our author, that there are cases of typhus requiring opposite treatment, some being attended with excitement of the system, and of course requiring depletion; others again with depression, or, as they would be called, cold cases of typhus, and these it would be necessary to meet with stimulants and tonics. Failure, on the other hand, must necessarily attend a misapplication of these means.

From all that we have seen in the writings of the Connecticut physicians, we must be compelled to form this conclusion, that the typhus which has prevailed in that state of late years, appears under the mildest form, the typhus mitior of the nosologists, or very soon assumes the asthenic type. On no other grounds can we explain the success of the milk and water system spoken of in this volume, and the capsicum and alcohol plan so strenuously insisted on by Drs. Miner and Tully. Certain it is, that neither of these methods are applicable to the typhus of our state and further south. We here observe pretty much the same distinction in the disease as is so admirably laid down in the descriptions of the writers against whom the Connecticut physicians love so much to declaim. The same method of treatment, at least so far as respects the principles upon which it rests, is equally successful in the hands of our physicians, as it has been found to be in those of Armstrong and his countrymen. We have before had occasion to express our honest conviction, that it is to the labours of Rush that the profession both here and abroad are indebted for the great improvements in the theory and practice of fevers, which shed so much lustre on the present day. His claims, it is true, are seldom adverted to. Many of our own physicians even overlook his merits, and some are so unblushing as to lay claim to originality for entertaining views long ago introduced to the notice of the profession by that great man; but their pretensions meet with little notice or respect, excepting from their own dependants and sycophants. It is our pride, and ever shall be considered the most gratifying portion of our public duties, to vindicate the claims of Rush to the respect and admiration due to his eminent talents, learning, and success.

To return to Dr. Smith: he recommends bloodletting in those cases only in which there is great pain, accompanied with a sense of fulness in the head or chest. The loss of blood to the amount of from twelve to sixteen ounces, tends to mitigate these symptoms, and renders the disease both safer and milder. He has not observed, however, that this measure induces any change in the disease, or renders the pulse slower, nor the heat less. All we can say by way of comment is, that the experience of our author is in direct opposition to that of the first authorities on typhus fever.

> "In some cases, in which I have resorted to this expedient, I feel confident that the pulse became more frequent, and the temperature of the body higher, in consequence of the loss of a pound of blood." P. 52–53.

This fact, so far from being a proof in support of the view entertained by our author of the power of bloodletting, is in our opinion directly contradictory of it. The reader acquainted with typhus fever, will scarcely need be informed, that the cases in which bloodletting raises the pulse and elevates the temperature, are instances of congestive typhus, in which the circulation labours under oppression, from which the detraction of blood immediately relieves it. This, it will be readily perceived, is in strict accordance with the facts recorded by Rush, Armstrong, and others who advocate this measure; and it requires but an extension of the same principle to come to the conclusion, that bloodletting not only effects salutary changes in these cases of congestion, but that it must also produce them, and with a far greater eficacy where typhus is attended with inflammatory action. Dr. Smith must therefore have laboured under some strange delusion, when he was blind to the changes produced by bloodletting in this or any other disorder.

Pursuing the same principles throughout the disease, Dr. Smith denies that either emetics or cathartics are called for in every case of typhus. Nevertheless as they are *at times* necessary, he lays down the following symptoms as indicating their use; nausea, or sickness and oppression at the stomach.

We believe this rule to be a pretty safe one, and if we are not much mistaken, there will be few cases of typhus met with, out of Dr. Smith's practice, that do not indicate the necessity of recourse being had to it.

Emetics. Tartrite of antimony is condemned in typhus, as wholly inapplicable even in cases where an attendant inflammation exists, because this latter is never considered by our author as of the phlegmonic species. Where emetics therefore are indicated, he substitutes the ipecacuanha, eupatorium or the sulphate of zinc. These articles he considers proper and safe in whatever stage of the disorder they may be required.

Cathartics. The more powerful ones are denounced as always injurious. The costiveness which occurs in typhus, is stated by our author to be of a very different character from that which is habitual with some individuals, where the stools are unfrequent, and the fæces hard. In typhus they are always liquid.

"The costiveness therefore," he says, "consists only in the unfrequency of the discharges, and not in their consistence." p. 60.

We confess that we do not see any force in this argument against the use of cathartics. What may be the principle upon which our author would administer them, and by which he would explain their beneficial operation, we do not clearly understand. If it be with the mere view of removing costiveness, we consider that it falls short of the important end for which these remedies should be given. This we consider to be not only to dislodge and remove the matter which accumulates in the intestines during the early periods of the fever, but likewise to open a sluice for the evacuation of the fluids of the body, and to derive them in this manner from any one organ to which they may be attracted, and thus prevent or remove those local congestions which so frequently occur in fevers. Another important object is to excite a counter-irritation, a local disease in the intestines, by which means the affection of the whole system may be diminished, if not entirely removed.

Dr. Smith urges another objection against cathartics on the ground that diarrhœa is too apt to ensue from their use. This consequence has not been *often* observed by others. *Laxatives*, such as Epsom salts with senna, rhubarb with a very small quantity of calomel or ipecacuanha, are very strongly recommended.

Blisters according to our author do not possess much influence over the disease, and may therefore be dispensed with. Here too he differs from the standard authorities.

Diaphoretics. These are likewise rejected by our author either as useless or as injurious, particularly when much external heat is applied. Ipecacuanha, contrayerva, and the Virginia and Seneca snake roots, may be given *with impunity*, "though they seldom or never produce any sensible perspiration, till the disease has formed a crisis, and then the patient will perspire freely without their assistance." On this paragraph we deem it superfluous to suggest any comment to our readers.

Opium is not considered by Dr. Smith as applicable to typhus. After the violence of the headache is abated and the heat becomes moderate, it will occasionally, if combined with ipecacuanha give rest and quietness. It most frequently, however, does harm, and is therefore at best but a doubtful remedy.

Mercury. As might have been anticipated, this remedy is no favourite with our author. He enumerates several instances in which it has produced very injurious effects, such as gangrene of the gums, necrosis of the lower jaw, also others in which although the mouth became affected by mercury, the disease nevertheless ran on forty or fifty days, and sometimes terminated fatally. He does not therefore consider it a specific in typhus, but allows it may be an useful auxiliary in certain cases, "that is, blue pill or a small portion of calomel combined with opium to check a diarrhœa, or *a grain* of the same with rhubarb as a laxative." This is truly not *American* practice.

We pass over the remarks on cinchona and tonics generally, and come to the consideration of *cold water* as an effectual agent in reducing the temperature, whether taken internally or applied externally. Our author directs that cold water should never be refused to patients in typhus, when they desire it. They should be allowed to drink *ad libitum.* The following is the method of external application found useful by Dr. Smith.

> " The method, which I have adopted, is to turn down the bed-clothes and to dash from a pint to a gallon of cold water on the patient's head, face and body, so as to wet both the bed and body linen thoroughly. It is better that he should lie on a straw bed when this is done, it is not, however, essential. If his body should be very hot, he may be turned upon his side, and the water dashed upon his back.
>
> " As soon as his linen and the bed-clothes begin to dry, and the heat in the head and breast begins to return to the surface, the water should be again applied, and in this way the heat may be kept down to the natural standard or rather below, on the surface, so that the skin may feel rather cool to the hand of a healthy person.
>
> " It is not very material what the temperature of the water is, if it is below blood heat, excepting the shock given by its first contact, which in cases where there is much stupor or coma, is of some importance; in general, the effect is produced chiefly by the evaporation." pp. 74, 75.

Some very interesting cases are added, in which this application was employed with eminent success. These form, of course, exceptions to the general experience of Dr. Smith, which has led him to rely so much, in this disease, on the *ars expectandi.*

This closes our observations on Dr. Smith's work. We have been as ample in our details as our limits would admit; the more so, because we wish to record in our pages every fact which can throw light on the history of typhus in our country. As our population increases, the causes which generate and foster this disease, as poverty, filth, and distress, will be called more into operation; and it becomes, therefore, important for the guardians of the public safety to understand the nature of the disease, in order that they may more fully check its advance and arrest its progress.

ART. II. MEDICAL DISSERTATION *on the Diagnosis and Treatment of* PERTUSSIS, *or* CHIN-COUGH, *which obtained the Boylston Premium for* 1822. By A. L. PEIRSON, M. D. Fellow of the Massachusetts Medical Society. Salem, 1824, pp. 51.

FROM the prevalence of hooping cough, and the mortality which attends it, we feel disposed to look with a favourable eye upon every attempt to enlarge the stock of our information in relation to its history and mode of treatment. Under this impression, we shall present our readers with some account of Dr. Peirson's Dissertation, which is the more entitled to consideration, as the opinions of the author profess to be the result of no inconsiderable experience.

As the subjects proposed for the Boylston prize were merely the "diagnosis and treatment of pertussis," Dr. P. has properly enough confined himself, as far as practicable, to the consideration of these two points. He has accordingly passed over, with a very slight notice, some of the more interesting questions relating to the disease.

With regard to its atmospheric origin, he simply states, that if any disease has a right to claim such an origin it is this, inasmuch as where it makes its appearance, it attacks persons simultaneously, without the slightest intercourse with each other. The contagiousness of the disease he considers "still involved in some doubts, although the most numerous probabilities lie on the affirmative side."

A humid and variable state of the air is considered most favourable to the prevalence of pertussis; and hence it occurs more frequently in the opening of the spring and autumn, in moist climates and upon our sea-coast.

Without entering upon the examination of the seat of the disease, Dr. P. simply asserts it to "be in the mucous membrane lining the trachea, bronchiæ, and air cells;" at the same time he admits that, "from the great quantity of glairy mucus furnished by the stomach, this organ participates in the disease."

Dr. P. divides the disease into three stages, and under these he gives so faithful a description of its symptoms, that we shall quote it at length.

> " The *first* is that in which the specific cause remains latent, corresponding to the first stage, or *period of incubation* in the exanthemata; it *lasts from one to three weeks*, and cannot, in all cases, be distinguished from the symptoms of a common cold, or catarrh. The best diagnosis between the two may be formed by observing that pertussis *attacks but once* during life —that *the cough is more dry*, and that there is less watering of the eyes and running at the nose, and *less of febrile excitement*, than in catarrh.
>
> " The prevalence of pertussis as an epidemic, would also bring suspicion upon symptoms, which might otherwise pass unnoticed. It is rare that physicians have an opportunity to decide upon the complaint in its first stage, but, admitting the contagious nature of the disease, the diagnosis may, for very obvious reasons, become a point of the highest importance.
>
> " The *second* stage of pertussis is clearly shown by the peculiar nature of the cough. This consists in a succession of very rapid and forcible expirations, succeeded by a long and sonorous inspiration, after which the expiratory efforts again commence, and the sonorous inspiration or whoop again follows; this succession is repeated till a quantity of mucus is thrown from the lungs, or the contents of the stomach are ejected, either of which generally puts an end to the paroxysm. During the expiratory efforts, the blood is forced to the head with great violence, the lips and eye-lids swell, and the whole face is purple and turgid, and a hæmorrhage not unfrequently takes place from the nose and mouth. Dizziness and vertigo are produced by the same cause; and the patient, being conscious of this, immediately, upon perceiving the access of a paroxysm, seeks the support of the first object within his reach, to which he clings till the fit is over. Although instances of asphyxia and suffocation do, *very rarely*, occur from the violence of the concussion of these paroxysms, yet, in general, it is astonishing to perceive, how instantaneously, after the paroxysm is finished, the little patient returns, with undiminished spirits, to his playthings, or his food. The appetite, in general, is not diminished, but rather, from the frequent evacuation of the stomach without nausea, the desire for food is augmented.
>
> " The fits of coughing come on at irregular intervals, and do not require any exciting cause to produce them. They are, nevertheless, produced at any time by a sudden motion, by crying or laughing, by distention of the stomach with food, by the effort of deglutition, especially if such effort be compulsory, as the forcing down of medicine, &c. and sometimes even by the association of ideas in the child's mind, at the sight of the cup or spoon containing the medicine. The *force of example* may be an exciting cause,

so that the business of the school room has often required to be suspended, from the interruption produced by the incessant coughing kept up by this cause.

"The duration of the second stage is from three to four weeks, during the first part of which time, the violence of the disorder seems to increase, and during the latter part, remains stationary, at its height. The reason of this is to be sought in the peculiar nature of the inflammation, which *creeps* from one part of the mucous membrane to another; for it is obvious, that if the whole surface were affected at once, the inflammation, and of course the cough, would not remain stationary, but would sooner reach its acme, and more suddenly decline.

"The commencement of the *third* stage is denoted by a perceptible *change in the expectoration.* Whereas it before was thin, transparent, and raised with much effort, and sparing in quantity—it now becomes thick, abundant, and more easily thrown up. This stage of the disease varies in its duration more than either of the others; complete convalescence being sometimes established in four weeks, at others, the characteristic cough continuing for as many months. The tardiness of the convalescence is proportionate to the violence of the symptoms of the second stage, to the weakness of the patient, and the diminished temperature of the air." pp. 6, 7, 8, 9.

It has been a question, concerning which some of the first medical men have differed, whether pertussis is always accompanied with febrile excitement. Dr. P. believes the true state of the case to be, that "pertussis, in its simple state, is unattended by any marks of inflammatory fever; but it *very commonly* happens that a catarrhal affection of the lungs accompanies the specific disease, and the symptoms usually attending this affection are those of general inflammation."

Diagnosis. From cynanche trachealis, bronchitis, pneumonia, and the spasmodic asthma of children, it may easily be distinguished by the peculiar character of the cough, which, in pertussis, "consists of a great number of rapid, expiratory efforts, followed at last by a sonorous, full inspiration, in which circumstances it materially differs from all the rest." From croup and quinsey it differs in "its mode of attack not being sudden, and from all of them in having an epidemic origin, and in the exciting cause of the paroxysm."

The *Prognosis* according to our author, may be gathered from the following circumstances.

"1st. The age of the patient—a very tender age being unfavourable. When infants do not vomit the mucus of expectoration, they are sometimes in danger of being suffocated by it.

"2d. The state of the patient previous to the accession of pertussis, and the existence of other diseases. Tubercles, existing in the lungs, often being accelerated, and sometimes inflamed, in consequence of pertussis, become a very dangerous accompaniment to this disease. Dentition, also, especially in irritable habits, augments the danger of the disease.

"3d. The degree and nature of the constitutional affection, or symptomatic fever. Convulsions and epilepsy sometimes occur from the disturbance produced in the system by pertussis.

"4th. The ease, or difficulty of breathing. The free transmission of blood through the lungs is interrupted by the violence of the fits of coughing—and in consequence of this obstruction, its free return from the vessels of the head, whence it is carried with unusual force, is also impeded. A moderate hæmorrhage coming on from the mouth and nose, in this state of things, is to be accounted a favourable circumstance, although a profuse evacuation of blood may bring on dangerous debility. It is but just, however, to state, that, although this sort of hæmorrhage is a very frequent occurrence, it has never happened to the writer to see an instance in which *any injury* arose from it.

"5th. The occurrence of inflammation, or the tendency to such occurrence, in the pulmonary apparatus." pp. 11, 12.

Treatment. This occupies by far the largest portion of Dr. P.'s dissertation, and contains a good deal of interesting matter. The indications laid down for managing this disease are, 1st, to remove all offending matters from the stomach and bowels; 2d, to shorten the period of the complaint; 3d, to guard against the inflammation of any of the respiratory organs, and to obviate such inflammation when it does occur; 4th, to preserve the vigour of the system by a proper attention to clothing, diet, air, and exercise; 5th, to restore the healthy functions and remove the cough and other symptoms, which sometimes remain long after the specific disease which accompanied them has disappeared. We shall briefly notice the means for fulfilling each of these indications.

To answer the *first*, emetics and cathartics are called for. Of the former ipecacuanha is justly considered preferable to any other. Among the latter, the submuriate of mercury is recommended to be administered either before or after the emetic. Three grains are considered a full dose for a child of one year. If this should not move the bowels sufficiently, it may be aided by castor oil. The vomiting and purging should be repeated throughout the disorder as often as the stomach and bowels suffer from accumulation.

In treating of the *second* indication, Dr. P. takes an extensive survey of the various means which have been recommended at different times, and by different authors. He considers all of them, however, "extremely vague and uncertain."

Narcotics. With the view of diminishing the morbid sensibility of the parts affected, this class of remedies has been very generally resorted to in the treatment of pertussis. Of these, opium, digitalis, and conium maculatum have been most relied on. According to Dr. P. opium "effects but little good when given in the second stage." "It may be given as a palliative, when there exists no heat, thirst or other mark of pyrexia, and it may then conduce somewhat to lessen the frequency and violence of the paroxysms." He adds, however, that it is liable to two great objections, viz. of increasing the disposition to coma and producing costiveness.

Digitalis, Dr. P. has found the most useful of all the narcotics in pertussis.

> "It is undoubtedly a contra-stimulus, and therefore appropriate to the nature of the disease; and, from the great excitability of the urinary apparatus in children, it produces diuresis more speedily and certainly than in adults. This circumstance makes it a much safer medicine than it otherwise would be, since, if it creates a discharge, the danger of an accumulation of its effects is much diminished. It is most conveniently given in the form of tincture. Six drops of a saturated tincture may safely be given to a child one year old, at intervals of six hours. This dose may be increased, by one drop at a time, till a diuretic effect is produced, or the state of the pulse indicate its diminution or suspension. Under the use of digitalis the fit of coughing will frequently be at longer intervals and less violent, and convalescence will be accelerated. So far from being liable, where an inflammatory determination to the lungs exists, to the objections against opium, it is frequently employed to advantage as an auxiliary to the appropriate remedies for such a state." p. 15.

Conium maculatum was first recommended as a remedy in pertussis by Dr. Butter, by whom it was very highly extolled. Dr. P. looks upon it "undoubtedly as a safe and in many instances a useful narcotic." He adds, that he has seen the following formula successful in several cases.

℞ Extr. Conii. . . . . . ʒj.
Tr. Camphoræ opiatæ . . ℥ſs.
Syrup. Tolutani . . . . ℥ſs.
Aq. Rosarum . . . . ℥iv. misce.

From a half to a whole teaspoonful may be given once in four hours to a child one year old.

Cantharides. It is to Drs. Sutcliff and Letsom that this remedy owes its chief celebrity in this disease, and the saturated tincture is the form in which it is usually prescribed.

> "It may be given every three hours, beginning with a dose of two drops for a child one year old, and increased until symptoms of strangury appear, soon after which a decided abatement, and frequently almost a cessation of the peculiar cough will take place." pp. 16, 17.

Alkaline remedies. The most popular of these is the carbonate of soda, as recommended in the following prescription by Dr. Richard Pearson.

℞ Carbonat. Sodæ
Vin. Ipecac. āā ʒj.
Tr. Opii. gtt. xx.
Aquæ ℥iiſs. misce.

A teaspoonful to be given every two or three hours, to a child of a year old.

Our author however does not place much confidence in this or any other of the alkaline remedies. If they have any effect at all, he thinks, it is only where they correct acidity in the stomach and bowels, and he further asserts that every possible advantage of this kind may be gained by adding lime water or carbonate of soda to the milk which is given to children for food

Antispasmodics. Assafœtida is the only article of this class of remedies which Dr. P. considers entitled to any regard. He speaks of it in the following terms.

> "Under its use, it certainly does appear that the appetite improves, the violence of the cough is abated, and quiet sleep is induced. What is quite remarkable, is, that children, although at first disgusted with the smell of the medicine, almost always acquire a relish for the flavour of it, so that they frequently ask for it. The best method of employing it is to give it five or six times a day, and especially at bed time, in as large quantities as the stomach will bear, in the form of a julep, or emulsion." pp. 19, 20.

Arsenic. Of this article Dr. P. says nothing from his own experience. Dr. Ferriar, with whom it was a favourite remedy in pertussis, directs it to be given, in the form of Fowler's solution, every night in doses of from one to two drops for a child one year old, taking care to prevent its accumulation in the system by occasional purges.

Emetics. Dr. P. concurs in the opinion generally entertained in favour of this class of remedies in cutting short the progress of pertussis. "Probably no class of medicines," he adds, "have been more successful in bringing about this object."

> "Nature herself seems to point to the use of them. For it is observed in all cases where the patients vomit easily at every fit of coughing, the disease is more mild than where the vomiting does not take place. By vomiting, not only is the mucus discharged from the stomach, but such an impression is made on the system at large as assists the powers of nature in altering the train of morbid actions." pp. 20, 21.

Sulphate of zinc, ipecacuanha, and antimony are the articles generally used, and indeed are abundantly sufficient to answer every indication. If the object is simply to evacuate the stomach, the zinc may be given in doses of five grains dissolved in water to a child of a year old, and repeated every ten minutes until it operates. The ipecacuanha, along with its emetic effect, produces at the same time diaphoresis and a discharge from the bowels. The tartrite of antimony is, however, preferred by our author as superior to every other emetic.

> "It evacuates the stomach, opens the bowels and cutaneous vessels, and subdues the first appearance of an inflammatory tendency. It is not one of its least recommendations, that it does not offend the palate, and may be given in any vehicle without suspicion. For so easily are the kinks of coughing excited, that the least offer of constraint, such as is necessary to exhibit medicine to a child, may bring on a paroxysm, which will baffle all the address of the best nurse, or attendant. To produce the best effect of antimony, it should be given in such small doses as to remain for some time upon the stomach. In cases where children do not readily vomit, the most unquiet period is during the night. This is partly occasioned by the food and other matters swallowed during the day. It is desirable, therefore, that the stomach should be placed in such a situation, that the contents of it may be ejected, should a severe fit of coughing occur. This purpose is very easily effected by mixing with the quantity of drink which the child usually requires during the night, from one half to one grain of the tartrite of antimony, for a subject one year old. The use of this medicine accords extremely well with that of moderate doses of opium, by which its purgative quality is restrained. A moderate dose of paregoric at bed-time, and the antimonial drink during the night, will, in a great number of cases, abate the violence, and shorten the duration of the disease." p. 22.

Purgatives. After the bowels have been thoroughly evacuated in the commencement of the disorder, Dr. P. thinks very little is to be expected from their use. Where a tendency to inflammation exists, purges of calomel may be given in doses of two or three grains for a child of a year old.

Tar Vapour. Of this remedy Dr. P. appears to have had no experience. By Dr. Robert Watt who has written with much ability on this subject, it is highly spoken of. "His mode of administering it was, to shut up the patient and its attendant, in a small close room, filled with the fumes of burning tar. The patient was ordered to be kept in the room until a paroxysm of coughing followed by vomiting, should have taken place; after which the respiration and sleep were generally improved."

Topical applications. Blisters, tartar emetic ointment, the combination of Struve,* &c. &c. are all considered by Dr. P. as of very little efficacy in arresting the disease.

Prussic Acid. The experience of Dr. P. with the prussic acid seems to have been quite ample. And he states the result of it to be "unfavourable to the character which it has obtained in the cure of pertussis. Although it checked the progress of the cough in some of the milder cases, it appeared inadequate to subdue the severe ones. In some cases, during its use, the cough certainly abated, but in others the disorder pursued its course unchecked." Dr. P. concludes his observations on the prussic acid with the following remarks:

> "From the experience very imperfectly set forth, we think the prussic acid promises so much that it ought not to be wholly rejected, but is deserving of farther trial. But we think we are warranted in recommending that the faith of such sanguine writers as Dr. Granville, be received by the faculty "cum grano salis." The excellent good sense and discrimination discovered by Dr. Elliotson in his brief but satisfactory treatise, gives great weight to his opinion, which seems to be, that although the prussic acid affords relief to the *functional disorders of the stomach*, and to some other complaints, yet it is altogether *useless in pertussis.* It is indeed to be regretted that the hydro-cyanic acid should have fallen so far short of expectation on this side the Atlantic. But it cannot be concealed that the high encomiums bestowed upon this medicine in the treatment of tetanus, hysteria, phthisis pulmonalis, and pertussis, have not been realized with us." p. 30.

We come now to our author's *third* indication which is to guard against and obviate inflammation. In fulfilling this indication, *bloodletting* is justly considered of primary importance. Wherever symptoms of inflammatory action accompany the disease, this remedy is indicated, and its use should by no means be neglected. Dr. P. very properly observes, that "the apparent feebleness of the subject, does not contra-indicate the use of the lancet. The more feeble, the less able is the subject to sustain the complication of disease which threatens or exists. The greater danger is the neglect of this evacuation." In relation to the cases described by Watt, Dr. P. remarks that the dissection proves them to have been cases of bronchitis, and adds that "the experience of this able writer, does not prove so much the necessity of bleeding for *simple* pertussis, as for the inflammatory affections accompanying the original specific disease."

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* R. Antimon. tartrit. . . gr. xx.
Tr. meloes. vesic. . . oz. j.
Aquæ . . . . . . oz. ij. M.

To be applied over the region of the stomach every 2 or 3 hours.

In addition to venesection, recourse must be had in this stage to purgatives, especially of calomel, diaphoretics and the warm bath. The diaphoretics most to be depended upon, are the antimonial preparations. Dr. P. adds, that "a saturated solution of carbonate of potass or of soda, particularly the former, will sometimes be found useful in effecting diaphoresis."

Under the *fourth* indication, Dr. P. furnishes some judicious directions concerning food, clothing, &c.

The *food* should be light, nutritious, and non-stimulating. "Milk," according to Dr. P. "stands at the head of all other articles, and should constitute the principal part of the food of children in pertussis."

The *clothing* of children with pertussis should be warm; and in winter, or where the lungs are weak, flannel should be worn next the skin.

Air, exercise, and friction of the skin, are also highly necessary in this disease. "The early part of every day is the best time for carrying children abroad, and when out, their attention should be excited, but not fatigued."

For fulfilling the *last* indication, our author mentions change of place—the cold bath—cinchona—the various preparations of iron, and the emplastrum gummosum, or Burgundy pitch, applied to the back, between the shoulders, and extending round upon the ribs. Of the chalybeates, Dr. P. gives the preference to the phosphate of iron, and recommends the following formula.

℞	Phosphat. ferri.	℥j.	
	Syrup tolutan. . . .	℥j.	
	Pulv. gum. acaciæ . .	ʒj.	
	Aquæ	℥iij.	Misce.

One teaspoonful of this may be given every four hours to a child one year old, to be increased as the stomach becomes accustomed to its use.

The remainder of Dr. Peirson's Dissertation is occupied with the details of sixteen cases of pertussis in which the prussic acid was tried, together with some additional remarks, in which he presents us with the following conclusions.

"1. The Whooping Cough is not often in itself a fatal disease. When it becomes so, it is from being combined with other complaints, especially inflammatory affections of the respiratory organs, and the diseases usually occurring at the period of dentition. It is a considerable proof of the mildness of the disease, that so many comparatively inert articles should be reputed specifics in its cure.

"2. At the access of the disease, perhaps during the first week, the healthy functions are somewhat deranged, but after that period are performed nearly as usual.

"3. That the complaint is one of specific duration.

"4. That the most successful mode of treatment is that which is founded upon principles of general pathology, without a minute attention to the specific disease.—By which I mean, that if the dangerous symptoms *not peculiar* to pertussis be successfully combatted, the specific disease will require but little attention.

"5. That a change of air, particularly removal from town to country, has far more effect than any other remedy. and becomes indispensable in many cases where from any causes the patient is much enfeebled. It is proper to add, that removal does not merit this high commendation if undertaken during the first fortnight, before the characteristic symptoms of the complaint are clearly manifested." p. 50, 51.

In closing our analysis of Dr. Peirson, we have to thank him for the very instructive and at the same time unostentatious essay with which he has presented the medical public, concerning a disease whose treatment is, we fear, even in the hands of regularly bred physicians, still too much under the dominion of empiricism.

Medical and Philosophical Intelligence.

DOMESTIC.

Effects of Arsenic.—We have recently received a communication on the pernicious consequences arising from the action of arsenic when externally applied, from which we shall abstract the most prominent facts. We need scarcely remark how very general the use of this mineral is in the hands of illiterate prescribers in almost all cases of a cancerous nature, real or supposed, and that human life is not unfrequently and most suddenly cut off by the sinister arts of these audacious pretenders. The conjecture of Dr. Moore Hoit, the author of this communication, is well founded. Among the consequences arising from the improper application of arsenic are constitutional prostration, paralysis, and sudden death.

Peekskill, May 14*th*, 1824.

"In the month of January 1823, I was consulted by Miss R. F——, of this village, on account of a small tumour, situated in the hollow between the angle of the lower jaw and mastoid process. The tumour was at this time about the size of a walnut, without pain, and the integuments of a natural appearance. Her constitution and general health, good; age, about twenty-three.

"The only opinion I could form of the disease was that of a chronic enlargement of a lobe of the parotid gland, the body of the gland not exhibiting any appearance of disease. I gave but little encouragement as to effecting a cure; however, by request was induced to attempt it. The means made use of, were friction, electricity, the application of emp. ammo. c. hydrarg. also the internal use of alkalies, and occasionally cathartic doses of calomel, which repeatedly produced a slight affection of the salivary glands, but all without effect.

"About the first of May following, I could discover little or no alteration in the tumour; it certainly had not diminished in the least. At this time she repaired to New-York, and consulted a practitioner, who told her the tumour was merely a scrofulous one, and in his hands could be cured. She submitted to his course of treatment for six or eight months, some time after the expiration of which, I again saw the patient. The tumour was now of an oval form, about three inches in length and two in diameter, strictly preserving in other respects its primary appearance.

"Some time in the month of March last, a fellow, by report from New York or Brooklyn, calling himself an "*Indian doctor*," undertook the cure of the tumour, which he termed a " wen." With all the particulars of his proceedings I am unacquainted: he, however, made one or two incisions through the skin, and then applied an " *eating plaster.*" The patient soon began to feel the effects of its voracious appetite—an inflammation, I believe of the whole abdominal viscera took place, attended by vomiting of a black and highly offensive matter, stools of the same with membranous shreds, general and severe pain, and prostration of strength. Towards the last of April, he told her friends that typhus fever had " set in," abandoned his victim, and went to New-York. On the 28th of April, I was requested to call and examine the patient. I found her in a very debilitated state, but without any of the appearances that are usually exhibited at the close of typhus fever. Her tongue was red and dry, covered with a fine red eruption, with three or four ulcerations upon it about half the size of a pea—teeth clean—the gums in every respect healthy—the voice hoarse, with considerable difficulty of articulation—the breath had a peculiar fætor—skin and pulse nearly or quite natural—eye good—was informed that there had been a profuse salivation. The surface of the tumour was covered with a dark slough; the application then in use was a bread and milk poultice. Was informed that at that time the vomiting was less; also the pain in the abdomen. I did not see the patient again till early on the morning of the first inst. when I was called, in great alarm. She was now evidently sinking, complained occasionally of distress in the abdomen, which was much distended—stupor—greater difficulty of articulation—pulse weak and irregular—skin covered with a clammy moisture. At noon, pulse scarcely perceptible—respiration laborious and rattling—3 o'clock, P. M. death. Within an hour after death livid patches began to appear on different parts of the body. About 18 hours after death, the body was extremely putrid and offensive.

" I have not been able to procure any of the plasters for examination; but the circumstances of the case are to me " confirmation strong" that the patient died from poison of arsenic, absorbed and carried into the system from the applications made to the tumour."

Extract of a letter from Dr. Peter P. Galatian, to the Rev. Dr. Upfold, of New-York, dated Walden, July 30, 1824.

" Dear Sir,—Agreeable to my promise, I send the following history of a case of adhesion of the pericardium to the heart, as fully as the few notes taken at the time will permit. E. daughter of A. Smith, of this village, after two successive attacks of acute rheumatism, was observed about the first of February 1823, to have a more than common action of the chest, and repeated with every pulsation of the heart, which continued to increase until the first of April, when I was called to see her, in company with Dr. C. of this place. The doctor could not pronounce whether it was hydrops pericardii, or an aneurism. The case presenting something new, I was induced to refer to some authors for information. After searching for some time in vain, I recollected an essay of Professor Mott, in the first volume of the Physico-Medical Transactions, entitled thoughts on pulsation in epigastrio. Finding there the previous affections and present symptoms of my patient so perfectly described, without hesitation I pronounced it a case of adhesion of the pericardium to the heart; the action of the chest could be seen across the room, extending to the epigastrium, together with a hurried and difficult respiration, from the commencement of which all rheumatic affection had ceased. On the fifth of April she died. With great persuasion I got permission to examine the seat of the disease. On elevating the sternum, and opening the pericardium at the right auricle, we found a general adhesion : that over the right ventricle was slight, the threads would easily yield; but carrying the fingers around the apex, there was a perfect union between the membrane and the heart itself.

"Although the relation of cases of this kind is not of any importance in a curative point of view, as when such diseased changes take place, the patient is beyond the reach of art, and the commencement of the disorder so insidious as to escape observation ; yet it is satisfactory to the friends, as well as the physician, to be enabled to form a just conclusion of the nature of the disease. With this view of it, I place the above at your disposal."

"*The New-York Monthly Chronicle of Medicine and Surgery*, conducted by an association of physicians." Since the publication of our last number, a Medical Journal has been started in this city, upon a plan differing somewhat from the journals already published in this country. All the articles are intended to be anonymous, and the editors accordingly announce in their prospectus, that their object is, not "to interfere with the many respectable journals already published in this country, but to supply the void caused by their indiscriminate rejection of anonymous articles, however great the ability or ingenuity with which they may come recommended." Of the three numbers which have appeared, we can only say that they are conducted with spirit and ability, and that we wish the work success.

An Inaugural Address, delivered before the Medical Society of the County of New-York, July 12th, 1824. By David Hosack, M. D. &c. President of the Society.——The act of the Legislature, passed in the year 1806, establishing medical societies in the several counties of the State of New-York, has at least been productive of one good effect, that of subjecting practitioners to a degree of constraint and control from which it has been too much the fashion of the times to exempt them. However strange it may appear, certain it is, that in the great concerns of life and health mankind seem willing unadvisedly to trust themselves to those from whom, even in the slightest affairs of interest, they are accustomed to require some evidence of knowledge or ability. Even in some of the most enlightened states of our Union, in defiance of common sense and common discretion, any unfledged individual, with the ordinary requisite of impudence, is suffered to assume the care of the health of our people without fear and without reproach. We have always considered the statute of 1806 as the precursor of a better state of things, and cannot but welcome with applause every attempt to place upon a better foundation the practice of the healing art.

The Medical Society of the county of New-York deserve our best thanks for the zeal and ability they have manifested in this salutary work. In an institution composed of so many eminent members of the faculty, much was to be anticipated, and we have the earnest that much will be accomplished. The distinguished President of the Society, in the discourse before us, has clearly set forth many plans of improvement, which will doubtless engage the attention of those to whom it was addressed.

We shall here extract a part of Dr. Hosack's address, from which our readers may form a better idea of its particular objects and character.

"This leads me then to inquire, first, what are the great objects for which such professional intercourse and solemn associations have been established in the state? and secondly, what are the means by which the benefits contemplated are to be secured?

"The objects referred to divide themselves under two heads: firstly, to regulate; and, secondly, to improve the practice of physic and surgery.

"For the attainment of the first of these objects, this Society has been very laudably and successfully engaged in framing a code of ethics which has received the approbation of the faculty, both at home and abroad.

"The State Medical Society has given its imprimatur to that code, and has recognised it in every thing essential; not only to place the practice of the healing art upon an honourable and liberal basis, but to regulate the intercourse between the members of the medical faculty in such manner, and upon such principles, that their observance cannot fail to preserve that elevation and respectability to which the profession has attained in the most cultivated ranks of society. A foreign journalist,* noticing our code of police regulations as recently published, expresses himself in terms of high approbation, and recommends them as meriting peculiar regard, and as reflecting the highest credit upon those who had performed the arduous task of propounding and constituting such code of regulations.

"I pass on to notice the means of effecting the latter object, that of improving the healing art, and of extending the benefits to be derived from this Association.

"That we may preserve the honour and respectability of the profession, none should be permitted to practise it who have not been legally received, either as Doctors of Medicine or as Licentiates, agreeably to the provisions of the act of the state legislature. From many facts which have come to my knowledge, there is good reason to believe, that in this city and in its vicinity, many ignorant pretenders, who commenced their career as acknowledged venders of quack medicines, are now prescribing for the sick, and are in the daily violation of the laws of the state. Connected with this subject, is the unwarrantable practice which has obtained among some of our apothecaries, and those of them too the least qualified, of prescribing for the sick who may apply at their shops for the purchase of drugs; and in some instances they have had even the arrogance to suppress the prescriptions of the physician, and to substitute their own combinations.

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* See Johnson, Med. Chir. Review, for March 1824.

" It therefore becomes the duty of this Society, agreeably to the act passed in 1813, to interpose, and to arrest these impositions upon the community, and which are to be considered as among the greatest evils that can befall society. I therefore propose that a special committee be appointed, or that it be made the duty of the Censors, or of the Comitia Minora, to obtain and to report to this Society, a census of all the physicians and surgeons and legally admitted practitioners of medicine in the city of New-York, classing them under the following heads:

" 1st. Those who were established in practice prior to the act of incorporation passed in the year 1813.

" 2d. Those who are graduates of this University, or of the Colleges or Universities of other states.

" 3d. Those who have been licensed in New-York, or have been admitted to practise by producing licenses from other states.

" 4th. Those who are practising under licenses or degrees obtained from foreign Universities and governments.

" Such census also becomes necessary, as it leads us to a knowledge of such persons as may be in practice, who, though well qualified, may have neglected to exhibit the evidence of their education and qualifications, as directed by the act of the legislature and the by-laws of this Society.

" By these measures we shall be enabled to carry into operation the provisions of the law for restraining those who may be illegally engaged in practice; and by so doing perform a duty imperatively enjoined upon the County Societies, an act of justice to the profession, and especially to the public, who are not always competent to discriminate between the impostor and the well-educated physician.

" The existing laws of this state, regulating the practice of physic and surgery, the statutes of our University, and the code of by-laws of this Society, I believe contain provisions, which, if properly regarded, will in a great degree lead to the suppression of every species of quackery and imposition in our profession. In all ages our calling has been disgraced by the arts of the selfish and designing; and it is mortifying to observe in our own city continued and most flagrant evidences of the successful career of charlatanry. I earnestly hope you will omit no effort within the legitimate reach of your authority, to discountenance and suppress the whole tribe of *nostrum* venders and *specific* mongers; and if, upon experience, you shall find that the present system of regulations is inadequate, that it will be deemed meet to supersede it by obtaining from our legislature a code of greater efficiency and vigour.

" Many years since, the Medical Faculty of London expelled from their communion even the distinguished and learned Dr. James, who, disregarding the obligations due to his profession and to society, became the vender of a secret febrifuge powder. In like manner, the most learned Society of Europe erased from their lists the name of the celebrated Lower, who had been convicted of venal practices. And within a few months, as we are informed by Dr. Johnson,* the name of Dr. Thornton, once highly respectable, has been in a similar manner disgraced, by being struck from the list of the Royal College of Physicians, because of his association with an itinerant quack, or vender of American herbs in London. The spirited journalist goes on to remark, that, in his opinion, " Dr. Thornton's conduct, in aiding the Whitlow imposition on public credulity, richly deserved this mark of disapprobation;" and adds his hope, " that immoral as well as unprofessional conduct shall be often served in this way in future." A similar coarse of decisive and vigorous conduct on our part would probably be productive of similar beneficial results, in preserving the respectability of the healing art in the United States.

" Indeed, gentlemen, I cannot withhold the expression of the mortification I feel when I see the members of our profession, some, too, enjoying the most distinguished seats in our Universities, descending from their high estate, and lending the sanction of professorial authority to any new syrup or panacea that cupidity and the arts of the impostor can combine to fill the purses of the venders."

Case of Mania, in which the Scutellaria Lateriflora was freely given. By Dr. John Neilson, Physician to the New-York Asylum.

R. M——, aged 27 years, a native of Ireland, and, for several years past, a merchant of this city, was admitted into the asylum 11th September, 1820. Has been always of a strong constitution, and naturally of a lively disposition, but of high pride, and irritable temper. It was observed by his friends, that for several months past he had been rather melancholy and reserved. For several days previous to his admission into the asylum, he exhibited marks of a disturbed state of mind. His own affairs were prosperous, and there was no assignable cause for this state of mind. A friend of his, however, had been involved in some unpleasant business, which had caused him some concern, and he had remarked that " it was a vexatious business, but that he would trouble himself no more about it." He now became suspicious of his food, and removed from one public house to another. He was advised by a friend to make an excursion into the country for a few days. He accordingly left the city and proceeded as far as Am-boy, where he only staid a few minutes, and then returned. He now seemed worse than ever, and on the 10th September, got out on the roof of his store in Pine-street, where he acted very wildly. A solution of tartar emetic was given him in some water, which vomited him considerably, but did not produce the desired effect of causing him to come into the house. While in this situation, having tied a bandage round his arm, he divided one of the large superficial veins of the forearm, with a nail, which bled profusely ; after remaining on the roof for about twelve hours, he of his own accord came down and went to bed. In a few hours, however, he became so furious, that his friends were obliged to confine him in a strait waistcoat, and it was deemed advisable to place him in the asylum. When brought into the house he was outrageously violent. His pulse was full and strong, and his countenance and actions indicative of the greatest fury. He was immediately put into the shower bath, in which, having remained a few minutes, he promised to be submissive, and when taken out and freed from the strait waistcoat, he walked up to his room, and remained comparatively peaceable and quiet for a few hours. It may be proper to remark, that his impression, on being brought to the asylum, was, that he was going to a masonic lodge. In the evening he appeared quite composed, was directed ipecacuanha and tartar emetic, which operated freely. He remained very quiet all night. The next morning, contrary to directions, a person appointed to superintend him, permitted Mr. M. to leave his room, and come down stairs, and there left him alone, while he went away to tell his friends how much better the patient was. The patient found in the kitchen a large table knife, the blade of which he broke off from the handle, and concealed in his shoe: with this, after he had been taken back to his apartment and left alone, he found means to open the door, and come out into the hall; he here bound his suspenders round each arm, and, with the blade of the knife, made a large, deep incision in the bend of each elbow, dividing the large veins, and some of the smaller branches of the artery—he was discovered in a few moments bleeding profusely from each arm. The hæmorrhage was immediately stopped, and at this moment I came into the house; his wounds were dressed, wine and arrow root were administered to him. He remained all this day very much agitated in mind. Once or twice he fainted. His strength was supported by light nourishment. It was found necessary to confine his hands. Towards evening he became so furious and ungovernable, that it was found necessary to confine him to his bed.

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* See Medico-Chirurgical Review for December 1823.

13th. Appears more composed this morning, and promises not to injure himself. He was unbound, and directions were given to keep him as silent and quiet as possible, he took some nourishment and soon fell asleep.

It may be remarked that his pulse, which after the loss of blood was small and scarcely perceptible, had now become full and frequent, though soft. Towards evening he became more excited, and suspicious of every one; as night approached, it was again found necessary to confine him to his bed.

14th. Has been very restless all night, but is more composed this morning, and promises to remain quiet if let loose; this was done, and his bowels being costive, he was directed sulphate of magnesia one ounce, and tartar emetic, one grain. This produced vomiting: he remained much as yesterday.

15th. Exhibits more febrile excitement this morning; bowels costive, was directed sulphate of magnesia one ounce, which operated freely. A blister was applied to the nape of the neck.

16th. Blister did not draw well: is wild and incoherent in his conversation, and violent in his actions; has torn the wounds in his arms open with his fingers, and from one of them pulled out the head of one of the flexor muscles of the hand: his wounds were immediately dressed. He remained tolerably composed during the remainder of the day.

17th. Has passed a comfortable night, and is at present quite calm. It is observed that he rolls up his eyes like a child with hydrocephalus, seeming to indicate some organic derangement of the brain: let another blister be applied to the nape of the neck.

18th. Blister drew well, and he appears quite natural this morning, he dressed himself, and walked out. In the night he became very furious, and pulled the dressings off his arms. He attempted to kill himself: this he did repeatedly. It was found necessary again to confine him closely to his bed.

19th. Is quite submissive, and appears quite exhausted from the violence of his exertions; continued quiet all day, but the aberration of mind still appears very great.

20th. Continues much the same as yesterday. His hands manacled to prevent his injuring himself. His diet is light and nutritive.

21st. This morning was seized with another paroxysm of fury, during which he dashed his head violently against the wall, and cut and bruised it severely.

22d. Alienation of mind still continues very great, and he appears bent on self-destruction. This morning, in a paroxysm of rage and fury, he bit a part of his tongue nearly off, chewing and bruising it, till the blood ran from the corners of his mouth. His tongue, and the lower part of his face are very much swollen, and he is unable to take any food except liquids, or to articulate distinctly.

23d. Continues much as yesterday, very much distressed, and being strongly impressed with the idea of his being about to suffer death.

24th. He is rather more composed to-day. It being conjectured that these paroxysms might depend upon nervous irritation, he was directed the use of the Scutellaria lateriflora, (skullcap) half an ounce of the dried herb to be infused in a pint of boiling water, one-third to be taken three times a day.

25th. Has had do return of his paroxysms of fury, and has been comparatively quiet; has had a copious evacuation from the intestines of dark coloured and offensive matter; takes freely arrow-root and his infusion of scutellaria, as yesterday; the wound of his tongue is very foul; he uses Bell's gargle, and washes his mouth with fresh yest; the wounds of his arms are healing.

26th. Discovers a degree of alienation of mind, but has had no return of his paroxysms, and remains composed and freed from his manacles. The skullcap has increased considerably the secretion of urine and of saliva, and reduced the frequency of his pulse, which is now slow and soft: as his strength is much reduced he was directed a little wine with his arrow-root: ordered sulphate of magnesia for the bowels.

27th. Medicine operated well.

28th. Not so well to-day; refuses every kind of medicine or nourishment; is irritable, and at times approximates towards frenzy; continue medicine.

29th. Has passed a quiet night, and is tolerably composed; let him have an ounce sulph. magnesiæ.

30th. Took his salts readily, which operated well; is more composed and rational this morning; continue the scutellaria.

Oct. 1st. In the morning was quite composed, and took his nourishment and medicine freely; continue scutellaria and light nourishment.

2d. Quite calm to-day; pulse slow, skin natural, tongue healing up by granulations, a small part of it having sloughed off; continue the medicine.

3d. Continues very peaceable; continue the scutellaria.

4th. Has passed a comfortable night, and appears disposed to be left alone; ordered to discontinue the scutellaria to-day.

5th. Much the same as yesterday; aperient medicine operated freely on the bowels; let a blister be applied to the nape of the neck, and resume the use of the scutellaria.

6th. Has been very calm since our last visit, and rather disposed to taciturnity. Pulse 50, and soft; quantity of urine greater than usual: continue the medicine.

7th. Is much the same as yesterday; discharges large quantities of urine, and exhibits symptoms of a returning appetite; continue scutellaria.

8th. Much the same. Pulse 56.

9th. Is incoherent this morning; seems rather suspicious again of the food that is brought to him.

10th. Quite calm and peaceable this morning; and continued so through the day, till towards evening.

11th. No visible alteration: at times he is quite calm.

12th. Very much excited this morning, talking in a hurried and incoherent manner. Pulse more frequent, skin and tongue natural; let him again be put upon the use of the skullcap.

13th. More composed to-day.

14th. Much as yesterday, alienation of mind still continues, but exhibited no marks of violence or rage.

15th. More excited this morning, and has refused to take the scutellaria.

16th. Much the same, has continued rather excited in mind through the day. Resumed the use of the scutellaria.

17th. More composed. Pulse soft and slower; continues the scutellaria.

18th. Quite calm and composed to-day. Pulse 46, and soft; skin and tongue natural. In the afternoon he became restless and uneasy in his mind, and made an attempt to escape from his room. Refuses to take any nourishment or the scutellaria. It may here be remarked, that since he commenced taking this last remedy, his pulse has been diminished in strength and frequency, and his urine and saliva very sensibly increased. Continues scutellaria.

20th and 21st. No visible alteration.

24th. Continues to improve.

27th. Not quite so well, lies in bed. Pulse, skin, and tongue natural; bowels costive. Omit the scutellaria, and ordered to take the sulphate of magnesia one ounce, and tartar e metic one grain.

28th. Medicines operated well: is more composed.

Nov. 4th. Remains perfectly quiet.

5th. Sullen, and seems sinking into a state of fatuity; in order to arouse him from this state of torpor and increasing dulness, he was directed to have the shower-bath every morning.

6th. After the administration of the bath, of which he complained, he became for a time excited: but again relapsed into his former torpid state; let the bath be repeated.

7th. Much improved; he dresses himself, and walks out in the hall; let the bath be repeated.

8th. Much improved, countenance brighter, bodily health good. It being thought that a change of air, and exercise might prove serviceable to him, and he being so much improved in body and mind; with the concurrence of his friends, he was this day, November 20, 1820, discharged.

Extract of a Letter to one of the Editors, from Dr. W. Rogers, of New-Orleans, dated August 25, 1824.

The yellow fever made its appearance among us some ten or fifteen days since. Its character is more typhoid than I have ever before witnessed, admitting of little or no depletion. In the cases which have been treated by myself, a brisk purgative, with local applications during its course, together with stimulation by mercury and camph. gr. ij. every two hours, have been the most successful. The headache which remains when the pulse has fallen, is best relieved by vesication ad nuch. The stimulation by the calomel and camphor to cease when the glands become affected, then a decoction of bark, light nourishment, &c. I have used nitric and muriatic drinks with occasional advantage. I will, with your permission, give you something on this disease in the winter.

FOREIGN.

On the use of Iodine in Goitre and Scrofula. (*Jour. Compliment. Fevr.* 1824, xvii. 305.)—This Journal contains a long and interesting memoir on the medicinal use of iodine, by Dr. J. G. Kolley, of Breslau; who completely confirms the statements of former writers as to its efficacy in some diseases, and adds some important particulars relative to the circumstances under which good effects may be anticipated from it. He always used it in the form of tincture, as first proposed by Dr. Coindet. He has found that it does not agree with persons of a sensible nervous habit; in them a very few doses excite restlessness, lassitude, weight and pain in the head, tremors of the limbs, moroseness, spasms, a sense of anxiety in the chest, and invincible repugnance to continue the remedy. It likewise disagrees with very robust, muscular individuals, accustomed to vigorous nourishment, especially if they are liable to determination of blood towards the head: in such persons it is apt to cause headaches so violent as almost to drive them to madness; and if employed at all, must be conjoined with laxatives. Wine-bibbers are similarly circumstanced. If there is the slightest disorder of the stomach or intestinal canal, iodine is apt to cause dyspepsia. Febrile and inflammatory diseases are quite incompatable with it; and so are diarrhœa, local urinary disorders, phthisis, all local affections of the lungs, stomach, and liver, and in general all internal diseases that have a tendency to run on to suppuration. In cases of goitre its success depends on the tumour being actually situated in the thyroid gland,—on the gland being neither scirrhous nor carcinomatous, nor filled with hard concretions or other analogous productions,—on the disease being not too old,—on the absence of cachexy, hectic fever, and derangement of the *primæ viæ*,—on the goitre itself being neither inflamed nor painful. If care be taken to abstract these circumstances, Dr. Kolley considers that the practitioner will very rarely fail of success. With regard to scrofula (scrofulous glands and sores, we presume; for his description is not very clear), he remarks, that iodine often shows singular activity in dissipating that disease. But to insure its success, or even its safe administration, the patient must be neither hectic, nor phthisical, nor disposed to be so. In the case of children, a steady regimen is requisite, great cleanliness must be observed, they should be kept in a pretty uniform temperature; and if they are very irritable, of a weak habit, liable to diarrhœa, or hydrocephalus, the remedy must be used with great caution, or avoided altogether. In scrofula he found it of great advantage to combine the iodine with mercury. The cases he has selected from his practice are twelve in number, five of goitre, three of scrofula, and four of eruptive diseases described under the convenient general title of *dartre*. We shall notice briefly his success in the first two diseases. The first case of goitre is a most admirable history of that disorder as it occurred in himself. It had existed for many years, had reached such a size as to impede greatly his speech and breathing, and all remedies had been directed against it in vain. He took the tincture of iodine for twelve weeks; in about a month the tumour began to swell a little and soften, then diminished, and at the end of the twelfth week had disappeared almost entirely. The second case is that of a girl 18 years old, in whom the disease had existed since her fifth year. When she had used the iodine for a month, the tumour began to diminish: after taking it for sixteen weeks, her stomach began to be affected, and consequently the remedy was abandoned: when the author saw her three months afterwards no trace of the goitre remained. The third patient, a stout man, 36 years of age, with a large goitre of twenty years standing, took the iodine for eight weeks: and the tumour disappeared entirely four weeks afterwards. In the fourth, a girl of 19, the disease was of sixteen years standing. During the third week of the treatment she was seized with a sense of anxiety, heat in the throat, and excessive faintness each time she took the iodine. In consequence no consideration could induce her to persevere, though the tumour began to decrease. Dr. Kolley is ignorant of the issue in this case. The last was an incipient case, accompanied with hypochondriasis. The tumour was removed in no long time, as well as many of the sensations referred by the patient to the disease in the neck; but he continued liable to congestions in the head. Of the three scrofulous cases, one was a most deplorable example of the ravages occasioned by a scrofulous diathesis of the most exquisite kind. Among other maladies she had enlargement of the cervical glands, and suppuration of several of them, accompanied with the discharge of serous matter. All the anti-scrofulous remedies had been exhausted upon her in vain. When the iodine had been continued four weeks, in the dose of five drops (tincture) thrice aday, the sores began to discharge a thicker yellow pus, some of them appeared about to cicatrize, and the swellings in the neck diminished. At this period the iodine was intermitted, calomel was given to gentle salivation, and the iodine then resumed. In eight weeks the sores were all healed, and the swellings gone; and the patient never experienced an unpleasant symptom. Ten months afterwards the cure continued permanent. The second case was one of most obstinate and complicated strumous ophthalmia in a well characterized scrofulous habit. All remedies had proved unavailing. In fifteen days there was a sensible amendment under the use of the iodine; and in three months the ophthalmia and all its effects which were curable had disappeared. The third patient, a child of four years, liable to severe strumous ophthalmia, which had resisted all sorts of treatment, got well in two months, under the combined use of iodine and mercury. In both cases of ophthalmia, Dr. Kolley thought it necessary to remove the active state of the inflammation by ordinary means, before resorting to the iodine.—*Edinburgh Med. and Surg. Journal.*

M. Trasmondi on two New Nerves of the Eye.—This may be called the pickings of the discovery made by Dr. Horner of the tensor tarsi muscle of the eye, [see Number 3 of this Journal]. In dissecting the tensor tarsi, M. Trasmondi discovered two small nerves running to it from the external nasal twig, the last subdivision of the ophthalmic nerve of the fifth pair. The same nerve—the opthalmic branch of the fifth pair sends a twig to the lachrymal gland, another to the cavity of the nose, and the other two to the tensor tarsi muscle; and hence, says M. Trasmondi, that perfect concordance, the admirable consensus which prevails in the action of all these parts, in secretion, absorption, the flow of the tears into the nostrils, &c. M. Trasmondi has likewise shown the bearing of the discovery on fistula lachrymalis, and other diseases connected with the lachrymal passages, and illustrated the whole with engraved designs.—*Anderson's Quarterly Journal.*

Dr. Brewster, on the accommodation of the Eye to different distances.—On this extremely difficult and disputed subject, Dr. Brewster concludes from an experiment made upon viewing a near object.

1st. "That the contraction of the pupil, which accompanies the adjustment of the eye to near objects, does not produce distinct vision by the diminution of the aperture, but by some other action which accompanies it."

2d. "That the eye adjusts itself to near objects by two actions, one of which is *voluntary*, depending wholly on the will; and the other *involuntary*, depending on the stimulus of light."

3d. "That when the voluntary power of adjustment fails, the adjustment may still be effected by the involuntary stimulus of light."

"It appears to me impossible to avoid the conclusion, that the power of adjusting the eye depends on the mechanism which contracts and dilates the pupil; and, since this adjustment is independent of the variation of its aperture, it must be effected by the parts which are in immediate contact with the base of the iris.—The mechanism at the base of the iris, may be conceived to produce the adjustment in four ways. 1st. By elongating the eye during the contraction of the pupil. 2d. By increasing the convexity of the cornea. 3d. By altering the convexity of the capsule of the lens: and 4th. By increasing the distance of the crystaline lens from the retina.—The last hypothesis is the only probable one, namely, the removal of the lens from the retina, by the contraction of the pupil, the eye being adjusted to objects at the remote limits of its range, when in a state of perfect repose."—*ibid.*

On Sublingual Pustules in Hydrophobia. By Dr. Xanthos, of Siphnus, in Greece.

"At the end of January, 1823, as many of my countrymen, compelled by the events which occurred in our country, were travelling from Russia through Germany to Marseilles, I saw one of them who came from Trapezunt, who had been bitten by a dog in Hanover. He had a considerable wound in the middle of the right thigh, which pained him in walking. Notwithstanding my advice, that he should stop on his journey till the wound was healed, he insisted on setting out the same day with his countrymen, and took nothing with him but a little mild salve. Early in the month of May, I met this man again, with 27 of my countrymen, in Zurich, and was happy to find the wound in a short time completely healed. The man said it was a lucky circumstance that the dog was not mad; upon which a Greek, from the Peloponessus, considerably advanced in years, and well acquainted with the customs of our country, observed, that if the dog had been mad, it would not have been of much consequence, all that would have been necessary was to cut out the *Lyssais* as soon as possible; I immediately put the question to him, "What do you mean by the *Lyssais?*' He replied, 'In persons who have been bitten by mad dogs, there appear on the ninth day, little blisters on the tongue, which we call *Lyssais;* these must be cut off with a sharp knife, and the bleeding suffered to continue till the poison is discharged.

"Acquainted with the information which Dr. Marochetti had communicated on this subject, I considered the testimony of this old Greek extremely important. I inquired of my other countrymen, who had lived in various provinces of Greece, whether they were acquainted with this practice; most of them answered in the affirmative; some assured me that they had often witnessed it.

"As my countrymen were too much dispersed in different places to enable me personally to obtain particular information on this subject from each of them, I sent certain questions from Heidelburg, and obtained from Haran, the following answer from Polychronis, a Thessalian:—

"If a man is bitten by a mad dog, on the ninth day small blisters, called *Lyssais*, appear under the tongue; they are about the size of a pea, some of them smaller; they are rather dark coloured, and look like flesh.—They are situated on the under side of the tongue, near the membranous band, particularly on the side of the veins. If you observe the tongue of a sound man, and then examine that of a man who has been bitten by a mad dog, you will immediately see the difference.

"As soon as these *Lyssais* are observed, they must be cut out with a sharp knife, and the bleeding continued, till the poison is discharged. If this is neglected, or deferred too long, as for instance till the twentieth day, the brain becomes affected, and the patient will die in deplorable convulsions.

"Seven Greeks, who were staying at A——, partly natives of Thessaly and Epirus, and partly from the islands of Greece, confirmed this testimony. Another from Lagura, near Larissa, wrote to the same effect, adding that in his country after the *Lyssais* had been cut out, and the wound suffered to bleed a considerable time, a red hot iron was often applied to the part for several days. An Epirot, K. W. wrote me word from Basil, that in his country, when the *Lyssais* were cut out, and the wound had bled copiously, it was the custom to rub it with garlic and common salt. He assures me that he has often seen this done, and that when this plan has been carefully pursued, the patient after the fortieth day is out of all danger. He adds, that the inhabitants of the neighbouring mountains, after the *Lyssais* have been cut out, wash out a gun-barrel with water, and make the patient wash his mouth with the rinsings.

" Thirteen Greeks staying at Basil confirmed this testimony, with some slight variations.

" A Peloponnessian, 80 years old, who had been in trade from fifteen to twenty years, in Russia, who had since resided at Odessa, and who is now in Switzerland, tells me that he has often employed this method in Russia, with the happiest success.

" In some parts of Greece, it is the custom to apply squeezed river crawfish to the bitten part; a drink is also prepared by squeezing these crawfish and pouring upon them wine or water. The inhabitants of many provinces of Greece have great faith in the efficacy of crawfish in cases of hydrophobia, and use them both internally and externally.

" They do not neglect also to treat the bitten part by burning, excision, escharotics, &c.

" From all this information it appears, that the treatment of hydrophobia throughout Greece, is the same, namely, by excision of the *Lyssais*. A question now arises, whether the peasant by whom Marochetti saw this treatment successfully employed, learnt it from a Greek, or in Greece itself. That it had its origin in Greece, is evident from the name *Lyssais*, which is used throughout that country. Mr. Sieber, the traveller, has lately declared, that he has discovered a remedy for hydrophobia in Greece, which he does not, however, disclose, as he has a view to indemnifying himself by selling the secret. Whether this remedy is that which has been pointed out, or some other, time will show. In the mean time I should have thought myself wanting in the duty which I owe to my fellow-men, if I had not as soon as possible made known to the German physicians, a plan of treatment which is universally adopted in my country, and the success of which has been testified by so many of my countrymen.—Happy shall I be if my information should contribute to the discovery of a remedy for so formidable a disease. If I should obtain any further information on this subject, I will take the first opportunity of communicating it."

New Alkali in Jalap. By Mr. Hume, Jun., of Long Acre.—The author has just extracted from jalap a substance similar to the recently discovered alkalies of opium, bark, nux vomica, &c. Having procured but a small quantity of this new substance, (for which he proposes the name of *jalapine*,) Mr. Hume is not yet enabled to give any satisfactory account of its chemical properties, nor of its action on the animal economy.

The mode of procuring jalapine is very simple. Coarsely-powdered jalap is macerated for twelve or fourteen days in strong acetic acid; a high-coloured tincture is thus obtained, which, when filtered, is to be supersaturated with ammonia, and the mixture violently shaken; a sabulous deposit will fall rapidly, and a few crystals will form on the sides of the vessel. The deposit and crystals are to be collected, and washed with distilled water; again dissolved in a small quantity of concentrated acetic acid, and reprecipitated by ammonia, added to supersaturation, which throws down the jalapine in small, white, acicular crystals. Jalapine is without any perceptible taste or smell, and seems heavier than morphine, quinine, or other substances of this class; it is scarcely, if at all, soluble in cold water, and only to a small extent in hot water. Ether has no effect upon it; alcohol is its proper solvent. Very little trouble is requisite to purify jalapine from extractive or colouring matter, for which it appears to have a very slight affinity. Mr. Hume, jun. operated only upon an ounce of jalap-root, from which quantity he conjectures, that, when the process is conducted with greater accuracy than usually attends a first examination, it will be easy to obtain about five grains of jalapine.—*Quar. Jour.*

Rupture of the Heart, and Perforation of the Stomach.—Dr. Andral, jun., at a late meeting of the Academy of Medicine, read the case of a person who died of the above disease: he had suffered a long time from indigestion, and died suddenly from the effect of strong emotions. The pericardium contained a great quantity of blood; the posterior of the left ventricle presented five oblong perforations, the greatest diameter of which were in the direction of the longitudinal axis of the heart. The heart was not softened in any degree. The stomach showed traces of chronic inflammation, and exhibited, about the centre of its posterior surface, a large circular opening, with soft and round edges. There was no effusion in the peritonium.—*Lon. Med. and Phys. Jour.*

Employment of Iodine in Scrofulous Complaints.—Dr. Henning has administered this remedy in eight cases. The youngest patient was a child two years old only, to whom the tincture was given in doses of five drops, three times a day; and it was administered to an old asthmatic person, who was subject to enlargements in the lymphatic organs about the neck, by which respiration was rendered still more difficult. He took the tincture also in quantity from eight to ten drops, four times a day. At the end of a week a critical sweat came on, which lasted several days; and by still continuing the use of iodine, his complaints were much relieved. In all the other cases, which were chiefly of young females, the best effects were derived from the remedy, without any sinister consequences.—*Lon. Med. Repos.*

BIOGRAPHICAL NOTICE

OF THE LATE

JAMES KENT PLATT, M. D.

Professor of the Institutes of Surgery in the University of Vermont.

It is with no ordinary emotions that we find ourselves called upon to perform the melancholy duty of recording upon our pages a brief memorial of one who was endeared to us by every tie of friendship and respect.

James Kent Platt was born of highly respectable parents at Plattsburgh, in the State of New-York, on the 11th of February, 1792. His father, William Pitt Platt, who still resides at that place, is a younger brother of the Hon. Jonas Platt, late a Judge of the Supreme Court of the State of New-York. Young Platt remained with his parents until the eighth year of his age, when he went to reside with his uncle Moss Kent, Esq. then of Cooperstown, in Otsego county, by whom he was adopted as his own son. As a proof of the deep and tender interest taken in his nephew by Mr. Kent, it need only be stated, that for the eight first years of young Platt's residence with him, he superintended in person the whole of his education, and instructed him in all the various branches of knowledge usually taught as preliminary to an entrance in our colleges. How gratefully young Platt appreciated this more than parental kindness of his relative it is unnecessary to mention.

In 1808, he entered as a student at Middlebury College in Vermont, and graduated with great credit to himself in 1812. In the autumn of the same year he became a resident graduate at Yale College in New-Haven, where he remained until the ensuing spring, and availed himself of the instructions of the late President Dwight. Having thus completed a very extensive course of preliminary education, he commenced, in 1813, the study of medicine under Dr. Moers of Plattsburgh, and in the winter of the same year attended the medical lectures in the University of Pennsylvania. In the ensuing year he became a private pupil of Dr. Hosack; and in the spring of 1816 received his diploma of Doctor in Medicine from the College of Physicians and Surgeons of New-York, on which occasion he wrote and defended a thesis "On Gout." During his pupilage in New-York, although his constitution had always been feeble, and his health had now become exceedingly precarious, Dr. Platt distinguished himself by his assiduity in the acquisition of knowledge, while his talents and manly virtues commanded the universal respect and affection of his associates.

That nothing might be wanting to complete the education of a youth so promising, it was determined that he should visit Europe. It was also fondly hoped by his friends that a voyage across the Atlantic might be the means of improving his health, and of prolonging a life already threatened with a premature termination. He accordingly sailed from this country in 1816, and remained abroad upwards of two years, the greater part of which was spent at those great seats of medical instruction, London and Paris. Previous to his return, he was made a member of the College of Surgeons of London. Ardent in his disposition, and enthusiastic in his attachment to his profession, it is to be feared that Dr. Platt, while accumulating treasures of information, was not sufficiently attentive to his health. At any rate, his friends with regret beheld him return to his native country with the same frail and emaciated form in which he had left them. Dr. P. now commenced the practice of his profession in New-York under circumstances quite auspicious success and to his future distinction. He soon found, however, that the atmosphere along the sea-coast was too keen for his feeble lungs, and he determined to change his residence for some place in the interior. He accordingly removed to Plattsburgh, in the State of New-York. After pursuing his profession there for about a year, thinking his health sufficiently re-established, he returned to this city. In a few months his enfeebled health again compelled him to abandon New-York, and to seek a warmer climate. He sailed for the island of St. Croix, where he remained for some months; but not finding his health much benefited by the voyage and the subsequent residence on the island, he returned to this country.

In 1823, he received the honourable appointment of Professor of the Institutes of Surgery in the University of Vermont. It may easily be imagined that, situated as Dr. Platt was, with his constitution daily wasting away under a fatal disease, the undertaking of an enterprise like this must necessarily have been attended with extreme hazard. He was not, however, to be deterred by such considerations from entering the lists of honourable competition. He accordingly accepted the appointment which had been proffered to him, and in the winter of 1823–4 delivered a course of lectures on surgery, which is spoken of in terms of the highest commendation. The effort, however, was too great, and he had scarcely finished his course, when the pulmonary disease with which he had so long struggled, developed itself with fatal rapidity, and in a few weeks terminated his earthly career.

Such is a brief sketch of the life of one, who, if he had been spared to maturer years would, without doubt, have become a distinguished ornament of the profession to which he belonged. As it is, it is consolatory to reflect that he has left behind him a bright example of early talent and virtue, which it is to be wished may not prove altogether unavailing.

In his manners he was simple, unaffected, and manly. His conduct was uniformly governed by principles of nice honour and strict integrity. As a friend, he was sincere, disinterested, and generous. His heart was the seat of every honourable principle and ennobling sentiment, and what is of still greater importance, his whole life evinced that he was under the constant influence of religious responsibilities. There are few perhaps who have left this world at so early an age whose worth was more generally confessed, and whose character was more universally admired by all who knew him.

Besides several anonymous productions on medical subjects, characterized by much acuteness of intellect, Dr. Platt published two interesting papers—the one " A Case of Hydrops Articuli occurring in the shoulder," the other " A Case of Epistaxis successfully treated by Immersion, communicated in a letter to Dr. John B. Beck, of New-York." The former of these appeared in the American Medical Recorder, Vol. IV. and the latter in the Philadelphia Journal of the Medical and Physical Sciences, Vol. II.

J. B. B.

NOTICES.

Medical Society of the County of New-York.

At an annual meeting of the Medical Society of the County of New-York, July 6, 1824, the following Officers were elected for the ensuing year:

David Hosack, M. D. F. R. S. *President.*
John Watts, Jr. M. D. *Vice-President.*
Felix Pascalis, M. D. *Corresponding Secretary.*
Nicoll H. Dering, M. D. *Secretary.*
Dr. David Rogers, *Treasurer.*
Samuel W. Moore, M. D.
John C. Cheesman, M. D.
John B. Beck, M. D.
Dr. Peter C. Tappen,
John Stearns, M. D. } *Censors.*

Delegate to the State Society.
James R. Manley, M. D.

University of the State of New-York.—College of Physicians and Surgeons.

City of New-York, Aug. 26th, 1824.

The College of Physicians and Surgeons will commence their Course of Lectures, for the ensuing session, on the first Monday of November next, (the 2d,) at the College in Barclay-street.

Dr. Hosack, *on the Theory and Practice of Physic, and Clinical Medicine.*
Dr. Macneven, *on Chemistry.*
Dr. Mitchill, *on Botany and Materia Medica.*
Dr. Post, *on Anatomy.*
Dr. Mott, *on Surgery.*
Dr. Francis, *on Obstetrics and the Diseases of Women and Children.*

The Board of Trustees hereby make it known, that, in conformity with the ordinances of the Honourable the Regents of the University, and the laws of the state of New-York, every Student is required to attend two full courses of all the Lectures delivered in this College before he can be admitted as a candidate for the Doctorate; unless said Student shall previously have attended Lectures in said College prior to the session of 1822–3, or shall have attended one entire course of Lectures delivered in some respectable School or University. The candidate must, also, have studied Medicine three years with some respectable practitioner, have arrived at the age of twenty-one years, and it is expected that he produce written testimony in relation to those several points.

The Matriculation Ticket is five dollars, which entitles the holder to the use of the College Library for one year.

By order,

WRIGHT POST, M. D. *President.*
JOHN W. FRANCIS, M. D. *Registrar.*

University of the State of New-York.—College of Physicians and Surgeons of the Western District, at Fairfield, Herkimer county.

The Lectures at this Institution will commence on the first Tuesday in November next, and continue during the space of sixteen weeks.

Joseph White, M. D. *on Surgery.*

Westel Willoughby, M. D. *on Obstetrics.*

James Hadley, M. D. *on Chemistry and Materia Medica.*

T. Romeyn Beck, M. D. *on the Practice of Physic and Medical Jurisprudence.*

James M'Naughton, M. D. *on Anatomy and Physiology.*

The Tickets for attending the Lectures are as follows:

For Anatomy and Physiology,	$12
Chemistry and Materia Medica,	12
Surgery,	10
Midwifery,	10
Practice of Physic and Medical Jurisprudence,	10

During the present year, very important and extensive additions have been made to the anatomical museum, obstetrical apparatus, and the chemical laboratory, by the Professor of Anatomy, who has visited Europe for that purpose.

By order,

JAMES HADLEY, M. D. *Registrar.*

Medical School of South Carolina.

The Medical Society of South Carolina having organized a School of Medicine, agreeably to the powers conferred at the last session of the Legislature, the following details are made for the information of the public:

The professors elected are—

John Edward Holbrook, M. D. *Professor of Anatomy.*

James Ramsay, M. D. *Professor of Surgery.*

Samuel Henry Dickson, M. D. *Professor of the Institutes and Practice of Physic.*

Thomas G. Prioleau, M. D. *Professor of Obstetrics and the Diseases of Women and Infants.*

Henry R. Frost, M. D. *Professor of Materia Medica.*

Edmund Ravenel, M. D. *Professor of Chemistry and Pharmacy.*

Stephen Elliott, LL. D. *Professor of Natural History and Botany.*

A Matriculating Ticket to be paid for at the first session.

In order to entitle an individual to examination for a degree, it will be necessary that he shall have attained the age of 21 years, be of good moral character, and have studied Medicine for two years with some established practitioner. He shall also have taken the Ticket of each Professor for two Courses of Lectures, or shall have attended one full Course at some other respectable Medical School, previously to his becoming a member of this Institution. Students who have for two seasons taken the Tickets of any or all of the Professors, shall be thereafter entitled to admission into his or their Lecture Room without further expense.

The Lectures will commence on the second Monday in November next, and will continue for five months. The Anatomical Lecture Room is lighted from the top of the building, and the seats are elevated sufficiently for the convenience of the Students. Arrangements for private dissections are particularly attended to, and every facility afforded for the acquirement of a minute knowledge of the structure of the human frame, and the preparation and preservation of its different parts. The Chemical Laboratory is contained in the same building, and such apparatus procured as is necessary to a full experimental course. The Library belonging to the Medical Society will be opened to the Students upon the most liberal terms; and it is only doing justice to that body to acknowledge that their collection of Medical Works is among the largest and most select in the United States.

The privilege of visiting the patients in the Marine Hospital and Poor-House affords the best opportunities for the acquisition of practical knowledge without additional expense. During the daily attendance of the physicians of these Institutions, such clinical remarks are made as are of importance to the Medical Student.

All operations in Surgery, occurring in these establishments, will be free to the class, in addition to such cases in private practice as may be operated on in the public institutions.

From the statements made, it appears that every opportunity of acquiring medical information will be afforded to the Southern Student by the Medical College of South Carolina, and that at a rate of expenditure very trivial. But some advantages of a peculiar character are connected with this Institution, which it may be proper to point out.

No place in the United States offers as great opportunities for the acquisition of anatomical knowledge, subjects being obtained from among the coloured population in sufficient number for every purpose, and proper dissections carried on, without offending any individual in the community. Those impediments which exist in so many other places, to the prosecution of this study, are not here thrown in the path of the Student, public feeling being rather favourable than hostile to the advancement of the Science of Anatomy.

In addition, the Southern Student can nowhere else receive correct instruction on the diseases of his own climate, or the peculiar morbid affections of the coloured population.

THOMAS G. PRIOLEAU, *Dean of the Faculty.*

Charleston, June 19, 1824.

At the late Commencement held at the Alleghany College in Pennsylvania, the Degree of Doctor of Medicine was conferred upon STEPHEN N. BROWN of New-York.

TO READERS AND CORRESPONDENTS.

For the purpose of giving place to the numerous contributions of our friends, an Essay on Cynanche Laryngea, by the Junior Editor, has been postponed until our next number, which will also contain a Review of Dr. Frick's Treatise on Diseases of the Eye, together with communications from Drs. Madianna. D. L. Rogers, Waterhouse, Staats, &c. &c.

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The mode of publication by monthly portions will, it is presumed, so divide the expense as to place the collection within the reach of the most moderate means; while the admission of subscriptions for detached parts, will permit a selection to such persons as may not wish to subscribe for the whole.

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N. B. The works of OLIVER GOLDSMITH will form the first four volumes. They are now in the press and will be published shortly.

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☞ Specimens of the work may be seen at any of those places.

NEW-YORK

MEDICAL AND PHYSICAL

JOURNAL.

Vol. III.] OCTOBER, NOVEMBER, AND DECEMBER, 1824. [No. IV.

Art. I. An *Essay on* Laryngitis. By John B. Beck, M.D.

It is only very recently that inflammation of the larynx has become the subject of any special inquiry, and by many it has been supposed, that it was a disease wholly unknown until within a few years past. This supposition is however by no means probable. Being a disease of simple inflammation, there can be no doubt that it must have occurred, occasionally at least, from the earliest periods; and a review of their writings will convince us that it did not escape the attention of observing men even in the infancy of medical science. For the purpose of establishing this fact, as well as of facilitating the inquiries of those who may hereafter be tempted to the investigation of this interesting subject, I shall enter upon a few historical details.

Hippocrates appears to allude very distinctly to this disease in his book of Prognostics. He says, " those anginas are very dangerous and speedily fatal, which produce no sensible change in the fauces or in the throat, which cause great pain, and induce orthopnœa. They produce suffocation on the first, second, third, or fourth day."* I am aware, that a writer of no common authority, Sir Gilbert Blane, has given it as his opinion that the disease here referred to is more probably the croup, because no mention is made of difficult deglutition.† This cannot, however, be justly considered as any solid objection to the supposition of the disease being laryngitis. It should be recollected, that it was not the object of the great father of medicine to give us in his "Prognostics," minute and detailed descriptions of diseases. He presents us with those great and prominent features only, from which a judgment may be formed concerning the general character and the final issue of diseases; and hence it will be found, that in more instances than one, some of the most distinctive symptoms are not at all brought into view. Illustrations of this might be adduced in abundance. It is unnecessary, however, to go beyond the very subject of which we are speaking for one perfectly satisfactory. In the aphorism succeeding the one just quoted, Hippocrates speaks of anginas accompanied with pain, tumour, and redness, and adds, that they are very fatal. Now, it is evident, that in these cases, deglutition must be very greatly impeded, and yet no mention is made of this circumstance. The omission, therefore, of any notice of difficulty of deglutition, a symptom common to all the anginas, cannot be admitted as of the least weight in determining this question. As to the conjecture, that the disease alluded to by Hippocrates is croup, upon the very principle assumed by Sir Gilbert Blane, it is attended with even greater difficulties than the one to which he opposes it, inasmuch as nothing is said concerning cough, a symptom so characteristic of croup as to distinguish it from every other affection.

Cœlius Aurelianus, in treating of the various kinds of cynanche, describes one, which, if it does not answer in every respect to our ideas of laryngitis, yet resembles it more closely than any other disease. He represents it as unattended by any evident tumour or inflammation of the fauces, and as destroying life more speedily by strangulation than any of the other forms of this affection.*

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* The Prognostics and Crises of Hippocrates, translated from the Greek. &c. By H. W. Ducachet, M. D. &c. p. 63.

† Medico-chirurgical Transactions of London. Vol. VI. p. 113.

By Celsus this species of angina is also distinctly recognised, when he says: "Interdum enim neque rubor, neque tumor ullus apparet," &c.† And afterwards, in noticing the symptoms which are common to this as well as to the form of angina attended with tumour, he adds: "Illis communia sunt; æger non cibum devorare, non potionem potest, spiritus ejus intercluditur. Levius est, ubi tumor tantummodo et rubor est, cætera non sequuntur."‡

Under the head of "Angina Interna," this disease is unquestionably described by Tulpius.§

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* "At si sine manifesto tumore fuerit passio, sequitur collorum tenuitas, cum extentione, atque subrectione inflexibili. Item vultus et oculorum cavitas: frontis extentio, color plumbeus, spirationis difficultas plurima, nullo, ut supra diximus, manifesto tumore, sive inflammatione aliqua apparente, neque in internis, neque in externis partibus, hebetudo plurima, atque imbecillitas ægrotantis; et celerrimus, vel acutus cum præfocatione, mortis effectus."—De morbis acutis et chronicis, &c. lib. iii. cap. 2. p. 182.

† Aurel. Cornel. Celsi de medicina. cap. iv. p. 196. Lugduni Batavorum. 1746.

‡ Ibid.

§ "Varia sunt anginæ genera, sed nullum perniciosius illo, quod produxit, vel vertebra introrsum luxata, vel inflammatio musculorum interioris laryngis. Quorum profundus tumor, si quidem coarctet angustum, asperæ arteriæ, caput; et ligulam illi insculptam (quæ sunt proxima vocis instrumenta) supprimitur non tantum vox; vel præcluditur quoque via spiritui vel potius ipsi vitæ. Quæ sine spiritu nulli diu, durabilis. Ac proinde non inconsiderate, Hippoc. lib. iii. prog. "latens angina vel primo, vel secundo die, lethalis."

He then adds the following case:

"Nauta pleni habitus, correptus intempesta nocte, ab urgente faucium angustia, traxit ilico spiritum adeo difficulter, ut excitata febre, et accenso gutture, inciderit protinus in grave suspirium, spiritum turbidum, imo ipsam mortem. Cujus periculo, quo subtraharetur, nihil non molitum: sed urgentior fuit necessitas: et vehementior, ab incluso spiritu, strangulatus; quam ut juverint ipsum. vel sanguis maturè ex utroque brachio detractus.

Riverius has also left us a good account of it.*

Morgagni, in his great work on the "Seats and causes of Diseases," has furnished us with a history of the symptoms and morbid appearances on dissection of an unequivocal case of this disease.†

By Lommius a most admirable description has been given us of a species of angina, the identity of which with laryngitis can hardly be mistaken.‡

By Boerhaave this disease is described in a manner that must convince every person that he was not unacquainted with its nature. "If the larynx," says he, "chiefly be acutely inflamed, and the seat of this evil be in the white muscle of the glottis, and together in the fleshy muscles, whose office it

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vel incisa ranula: vel cucurbitulæ, gargarisationes, clysteres, cataplasmata: aliaque satis celeriter adhibita."—Nicolai Tulpii observationes medicæ. lib. i. cap. 51. p. 93. Amstelœdami. 1672.

* Si inflammatio interiores laryngis musculos occupet, synanche appellatur. In synanche maxima est respirationis læsio, ita ut ægri strangulari videantur. Fauces vehementer dolent, nullus tamen rubor aut tumor neque in faucibus intus neque extra in cervice apparet. Hæc species anginæ omnium periculosissima est."—Riverii opera. lib. vii. cap. 7.

† Epist. xliv. 3.—Cook's Morgagni, Vol. I. p. 221. Am. ed.

‡ "Porro mortifera est, atque omnium horrendissima angina, citissime, que incidit, et necat, quæ neque in cervice, neque in faucibus quicquam conspicui, vel tumoris, vel ruboris exhibet, simulque summi doloris tormentum, et vehementem febrem, atque tantum non presentem suffocationem infert. Tum profecto oculi vertuntur, et rubent, et veluti iis qui strangulantur prominent: vox impedita nihil significat, et qualis catulorum est, tenuis editur: os apertum biat: frigidi æris cupidum, ex eoque spumans saliva movetur: lingua exeritur, crebroque ut in anhelis propter laboris impetum equis, agitatur; potui datus liquor per nares remeat: labra livescunt: cervices rigidæ contractæ sunt: ipse æger totus inquietus est, crebro e cubili exilit, moleste supra dorsum, commodius recto collo atque capite cubat; videt, auditque obtuse, et præ suffocatione non intelligit quid audiat, quid dicat, aut gerat: tandem vero strangulatu, atque syncope oppressus, perit."—J. Lommii observationes, p. 99. Amstelœdami. 1738.

is to shut the same; there ariseth a terrible quinsey, which soon strangles. The signs are, a violent pain in the raising of the larynx, upon swallowing, increased upon speaking or hallooing; a very shrill and shrieking voice; a very hasty death, with the utmost anguish; and this is the worst kind of all, and not discernible by any outward signs."* In the treatment, he recommends copious and repeated bloodletting, purging, blisters, inhalation of warm vapours, and finally, bronchotomy.

Lieutaud divides anginas into four species: the inflammatory, catarrhal, gangrenous, and spasmodic. The last of these he thus defines: "Convulsive angina varies much from the other species of angina, both in the greater difficulty of breathing, and in swallowing being more impeded, so that even when erect, the patient can scarcely draw breath, while, from accurate examination, there appears no mark of redness, obstruction, or swelling, about the parts affected. Such is the violence of this disease, that it takes off some patients in a few hours."†

Mead, also, in his medical precepts, gives an account of this disease as a species of quinsey, which he calls a *strangulation of the fauces.* In this affection, he says, "all the nerves are convulsed, and the patient drops down dead suddenly. Of this sort (of quinsey) I have seen one instance, in which, though a large quantity of blood was drawn twice in six hours time, yet that evacuation was of no avail. Upon dissection, there was not even the least appearance of swelling or inflammation in the glands or muscles of the mouth and throat; but the blood-vessels were turgid every where with a thick blood. This disease, however rare," he adds, "is described by Hippocrates."‡

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* Aphorisms, 802. 809.

† Synopsis of the universal practice of medicine, &c. p. 465. translated by E. A. Atlee, M. D.

‡ Medical precepts and cautions. By Richard Mead, M. D. &c. p. 71.

Although it appears evident from the foregoing review that this disease is very far from being of such recent origin as some have supposed, and also that, under the generic term of angina, it has been described by a number of successive writers, yet it must be admitted, that it is only within a few years that its true nature and distinguishing features have been investigated with that accuracy and precision to which its great importance so justly entitle it. That this was not accomplished, by the ancients more particularly, is to be attributed entirely to the want of those anatomical investigations after death, which in later times have thrown such a flood of light over pathological inquiries.

In 1809, three cases of this disease were reported by Dr. Matthew Baillie to a society in London for the improvement of medical and chirurgical knowledge, and were published in their transactions in 1812. The whole paper is exceedingly interesting, and furnishes a fine specimen of that accuracy of observation and maturity of judgment which so eminently characterized that distinguished physician.* It is a fact worthy of remark in connexion with this paper, that Dr. Baillie states, that after a practice of more than twenty years, he had only met with two cases of the disease, and that he knew many physicians, of much longer experience, who had never met with even a single case.

In the same year in which the foregoing paper was published, appeared an account of some cases of this disease in the Medico-Chirurgical Transactions of London,† by Dr. Farre; and to this physician perhaps are we most indebted for awakening the attention of medical practitioners to this important subject. Since that time, several valuable contributions of cases and observations have appeared in relation to it, in the succeeding volumes of the Transactions of that

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* Transactions of a society for the improvement of medical and chirurgical knowledge, Vol. III. p. 275.

† Vol. III. p. 84.

Society,* as also in the periodical publications of Britain.† A brief notice is also taken of it by Dr. Marshall Hall,‡ in his treatise on diagnosis; and in the works of Armstrong,§ Bell,|| and Bedingfield,¶ will be found many important facts and observations in relation to it.

In France, the disease was briefly but accurately noticed in the Dictionnaire des Sciences Medicales, which appeared in 1812.** In 1819, a memoir was published by M. Bayle, entitled, "Mémoire sur l'œdème de la glotte, ou angine laryngée œdémateuse."†† This is a very valuable production; but it relates entirely to that variety of the disease which is attended with effusion under the mucous membrane of the larynx.

In this country, we are not without our contributions on this interesting subject. So early as the year 1808, in a paper on the cynanche trachealis, by Dr. Dick of Virginia, this disease is distinctly alluded to. He speaks of it as the most inveterate species of the croup; and from its being confined to the larynx, he assigns to it the name of *Cynanche laryngæa.*‡‡ More recently, important and highly instructive cases of it have been recorded by Drs. Bliss§§ and Peixotto|||| of New-York, and Dr. Jackson¶¶ of Boston.

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* Medico-chirurgical Transactions. Vol. III. p. 84. 323. Vol. IV. p. 297. Vol. V. p. 156. Vol. VI. p. 133. 141. 221.

† Edinburgh Med. & Surg. Journal. Vol IX. p. 199. Vol. X. p. 284. Vol. XII. p. 205. 238. 247.

‡ On Diagnosis. By Marshall Hall, M. D. &c.

§ Practical Illustrations of Typhus Fever, by John Armstrong, p. 334. Am. ed.

|| Surgical observations by Charles Bell. Part I. p. 14.

¶ A compendium of medical practice. By James Bedingfield. p. 51. Am. ed.

** Art. Angine.

†† Nouveau Journal de Medicine. Janvier 1819.

‡‡ Facts and observations relative to the disease of Cynanche Trachealis or Croup. By Dr. Elisha C. Dick of Alexandria.—Barton's Medical and Physical Journal. Third Supplement. p. 242.

§§ Transactions of the Physico-Medical Society of New-York. Vol. I. p. 115. N. Y. 1817.

|||| New-York Medical and Physical Journal. Vol. II. p. 436.

¶¶ The New-England Journal of Medicine and Surgery, Vol X. p. 22[illegible]

Besides the cases and detached remarks just enumerated, I am not aware that any thing of importance has been done on this subject. At any rate, no general essay concerning it, as far as my knowledge extends, has yet been attempted. To supply, if possible, this defect in our medical literature, is the object of the present paper. An attempt to which I am the more emboldened, as the frequent occurrence of the disease in this city during the last year has afforded me no inconsiderable opportunities of becoming practically acquainted with it.

Character and symptoms. In its commencement this disease may be looked upon as purely local, and the first symptom by which it is usually ushered in, is a slight sense of soreness in the fauces, resembling what is commonly called a sore throat. As this is considered nothing more than the effect of an ordinary cold, it excites no alarm, and most commonly is slighted by the patient. There are no febrile symptoms present, and he generally finds himself well enough to attend to his ordinary business. If the fauces be examined, they will perhaps be found covered with a blush of inflammation, unaccompanied generally by any swelling of the tonsils or neighbouring parts. This state of the throat continuing for a day or two, the patient is suddenly seized with a sense of great uneasiness about the region of the larynx. The pain in the part is by no means acute, and the principal source of complaint is a feeling of stricture or obstruction about the passage of the larynx, through which the air passes in respiration. For the purpose of relieving this obstruction, frequent attempts are made to clear the throat by hawking, &c. The voice now becomes affected with greater or less hoarseness, according to the violence of the attack. Connected with this, there is labour in respiration and slight difficulty of deglutition. As the disease advances, sometimes in the course of a few hours, at others in a day or two, all the symptoms increase in force. The respiration becomes more impeded; the voice hoarser and more suppressed; the deglutition more difficult. Occasional fits of suffocation now come on, which sometimes last for several minutes, and occasion the greatest distress. As these subside, the patient becomes easier, without, however, experiencing the least amelioration of the other symptoms. At longer or shorter intervals, the fits of suffocation are repeated, and at each repetition, they become more violent and distressing. Frequently they seize the patient during sleep. The anguish which is exhibited at this stage of the disease, and during the paroxysms of interrupted respiration, can better be imagined than described. The larynx is perceived in violent motion—the head is thrown back, and on the countenance is depicted the extremest agony; the eyes are wild and prominent—the mouth is open as if gasping for breath—the lips are pale—the tongue protrudes, and the voice is scarcely audible. In this situation, patients have not unfrequently attempted to end their sufferings by endeavouring to cut their throats.* It is evident that under such circumstances, life cannot be protracted very long, and the wretched victim, after a few convulsive efforts, expires from actual suffocation. Such is the general career of this disease, necessarily varying somewhat in individual cases, according to the violence of the assault, and the peculiarities of the patient's constitution. In some instances not the slightest trace of inflammation is to be detected on examining the fauces; and with the exception of the local uneasiness about the larynx, there is nothing which indicates the imminent danger in which the patient is situated.

I have said nothing of the symptoms of general febrile or inflammatory excitement, as characterising this disease, because, although they are present in some cases, yet they are more generally wanting, and in the very worst cases they do not make their appearance from the commencement to the termination of the disorder. So striking, indeed, is this fact, that by Bayle it is considered as constituting a positive evidence of there being two distinct affections, to which the larynx is subject; the one being an œdema of that organ, without fever or inflammatory symptoms; while the other is the inflammatory affection described by Bœrhaave and other authors. To me, however, there does not appear to be any just ground for this distinction. In all the cases recorded by Bayle, which are precisely similar to some of those of Baillie, Farre, &c., there is no question that the disease, primarily, consisted in a subacute inflammation of the mucous membrane of the larynx, terminating very speedily in effusions underneath it. Looking upon it in this point of view, it is perfectly easy to account for the absence of febrile symptoms, as well as for the fatal nature of these cases. The effusion relieves the local inflammation, and thus prevents reaction; at the same time that it mechanically closes the rima glottidis, and thus destroys the patient. If the inflammation of the laryngeal membrane on the other hand be greater, febrile symptoms may come on, and, instead of this passive infiltration in the subjacent membrane, the local inflammation may terminate in the effusion of coagulable lymph on the surface of the membrane, and in ulceration and destruction of the parts. If this view be correct, it is evident that the only difference in these cases, consists in the degree of inflammation, and the necessary consequences of it resulting from the peculiar structure of the larynx, and not as Bayle supposes, in any specific difference of disease.

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* Cases of this kind are related by Bayle.

The most usual duration of this disorder is from three to five days. In not a few cases, however, it has proved fatal within the first twenty-four hours, and in some, even during the first paroxysm of suffocation. By Bayle, instances are related in which it was protracted during the space of several weeks, and then terminated fatally. Such instances, however, I suspect are rare.

It may be considered as one of the striking peculiarities of laryngitis, that its attacks are confined to persons who have reached adult life. Such has, at least, been the case in almost every instance which has as yet been recorded. In some it has been at the advanced age of sixty, and even upwards.

Most usually, however, it occurs in the prime of life, between the years of puberty and forty-five or fifty. In a very few instances it has been observed in children. By Dr. Marshall Hall, cases of this kind are recorded.* But in these it should be recollected that the disease was induced by the accidental application of a powerfully stimulating cause to the parts themselves, in which of course, predisposition could have had no agency at all. With regard to other cases that have been adduced of its occurring in infancy and childhood, they are in many respects so unsatisfactory as scarcely to justify us in considering them as genuine cases of this disease.

Although not confined exclusively to either sex, yet males appear to be much more liable to inflammation of the larynx than females. This is a curious fact confirmed by the histories of the cases which have been recorded, and the most probable cause that can be assigned for it is the greater development of the larynx, which is known to exist in the male sex.†

From the frequency of inflammatory affections, and especially those of the throat in the autumn and winter, it might naturally be supposed that this disorder would be more likely to occur in those seasons, than in any other portion of the year; and this has been verified by the result of observation. It may, however, take place at any period of the year, if the patient be exposed to sudden transitions of temperature, or to an atmosphere loaded with moisture.

In many, perhaps in a majority of cases, it has been remarked that the patients had been previously subject to catarrh, quinsey, &c. From the vicinity of the organs affected in these complaints, it can readily be conceived how inflammation of them would predispose the larynx to be similarly affected.

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* Medico-Chirurgical Transactions, vol. XII.

† "*Children, women, and eunuchs, in whom the larynx is proportionally smaller than in the adult man*, have also naturally the voice much less intense than his." Summary of Physiology, by F. Magendie. Translated by J. Revere, M. D. p. 128.

Appearances on Dissection. On opening the body of a person who has died of Laryngitis, the tonsils and the velum pendulum palati will be found perhaps slightly inflamed. In some instances the posterior and upper portion of the tongue is also somewhat inflamed. The epiglottis most generally exhibits the evidences of high inflammation, and is much thickened; it frequently stands erect, so as to leave the cavity of the larynx almost entirely uncovered. In the larynx various morbid appearances present themselves, depending upon the violence and duration of the previous disease. In some instances no other evidences of disease are observable, besides a simple redness and thickening of the mucous membrane of the larynx. This thickening is frequently so great as nearly to obliterate the cavity of the glottis.

In other cases, together with the inflamed condition of the mucous membrane of the larynx, there is found an effusion of serum underneath it so great as completely to close the rima glottidis.

In other cases again, the inflammation of the membrane of the larynx terminates in effusion of lymph upon its external surface, by which the passage of the glottis is either completely closed, or very much diminished in size.

Occasionally purulent matter has been detected on the larynx, and in one case an extensive abscess was found between the mucous membrane, and the muscles of the larynx. Generally, the trachea is unaffected. In some cases, however, slight traces of previous inflammation are discovered. It is not followed by effusion, and in no instance, I believe, has any thing like the croupy membrane been formed.

The lungs are also more or less affected. In two of the cases recorded by Dr. Baillie, "the lungs did not collapse upon taking off the sternum." In one of Dr. Farre's cases, the lungs were slightly congested, and in the other, "there was some accumulation of mucus in the cells of the lungs, and a slight effusion of serum into their reticular texture. The left pleura partially adhered, and the cavities contained rather more fluid then is natural to them." By Bayle, too, it is stated that the lungs were found gorged with blood. By the same writer, the blood is asserted to be darker coloured, and more difficult to coagulate than healthy blood. These appearances are very justly ascribed to the deficiency of oxygen, with which the lungs are supplied, and the consequent superabundance of carbon in the blood ; and it is to this interruption in the process of respiration, that death in this disease is to be ascribed. What confirms this opinion, is the fact that the condition of the lungs resembles in every respect that of those who die in consequence of suspended respiration from other causes.

Causes. Among the causes capable of producing this disease, may be mentioned, sudden variations of temperature—diseases of some of the neighbouring organs—the application of a powerful stimulus to the part itself.

Sudden variations of temperature. As of all other inflammatory disorders, this is unquestionably the most common cause of laryngitis. Most of the cases on record have arisen from imprudent exposure of the body. A humid atmosphere would also seem to be more particularly favourable to the development of the disease. This was strikingly confirmed in this city in 1823, when it may almost be said to have prevailed epidemically.

Diseases of the neighbouring organs. From the contiguity of the tonsils, pharynx, &c. to the larynx, it is easy to see how affections of the former may involve the latter. There is every reason to believe, that even ordinary inflammation of the tonsils sometimes proves suddenly fatal by the diseased action extending to the larynx. That this is particularly the case in the malignant form of the disease, (cynanche maligna) will scarcely admit of a question. In those cases of the disease which sometimes occur, in which the patient dies suddenly and unexpectedly, this occurrence may generally be traced to the extension of diseased action to the larynx.

That disease of the pharynx may produce a subsequent affection of the larynx, is established by several cases on record. Mr. Bedingfield relates the case of a woman aged 30, who, during convalesence from pneumonia, was attacked with difficulty of deglutition and respiration, hoarseness and suppression of voice, cough, &c. On examining the fauces, no appearance of disease could be detected. After remaining in this condition for twelve weeks, the patient died, and on dissection, the larynx was found inflamed, and the membrane so much thickened, as to diminish very considerably the rima glottídis. On continuing the dissection, it was discovered that the cause of this mischief in the larynx, was a tumour in shape and size resembling a filberd, situated at the anterior pharynx, just below the rima glottidis.* By its pressure, it had produced ulceration in the pharynx, as well as the morbid appearance just described in the larynx.

Mr. Charles Bell gives the history of a case of diseased pharynx, which, after about a month's continuance, spread to the larynx; and towards the close of the disease, this seemed to be the part mainly affected. After a protracted sickness of nearly three months, the patient, a woman about thirty-five years old, died, and on dissection, the pharynx, and beginning of the œsophagus, were found studded with schirrous tumours, so as nearly to close the passage. "Where the mucous membrane was reflected over the glottis into the trachea, it was found much thickened, white, and dense; and on looking through the larynx from below, two white tumours were seen projecting from the sides of the tube. These left a triangular opening so small, that it was wonderful this poor woman could breathe so long."†

An abscess in the neighbourhood of the larynx, has been known to produce the symptoms of laryngitis. A case is mentioned in the Edinburgh Medical and Surgical Journal, in which the sac of an abscess was found attached to the under surface of the muscles covering the thyroid cartilage, being reflected over that cartilage, and bounding nearly the extent of the os hyoides. It contained about half an ounce of pus. It produced all the symptoms of inflammation of the larynx, and the patient died of it. The trachea and larynx, on dissection, did not discover any unusual vascularity. They contained only some common mucus, the sacculi laryngis were filled with pus.*

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* A Compendium of Medical Practice, by James Bedingfield, p. 54.

† Surgical Observations, Part I. by Charles Bell, p. 53.

In addition to those already-mentioned, there is another affection of a neighbouring organ which has in some rare cases given birth to all the symptoms of laryngitis, and that is, aneurism of the large blood-vessels near this part. Bayle relates the particulars of a case in which these symptoms were occasioned by an aneurism of the aorta pressing upon the trachea. On dissection, the larynx was ascertained to be perfectly healthy.† Mr. Lawrence furnishes us with an instance in which similar effects were produced by an aneurism of the arteria innominata.‡

The application of a powerful stimulus to the part. The stimulus to which I allude is boiling water or steam. In the Medico-chirurgical Transactions of London are related several interesting cases of children who, by mistake, attempted to drink boiling water from the spout of a tea-kettle. From the report of the writer, it appears that the effects were not, as might have been expected, inflammation of the œsophagus and stomach, but inflammation of the glottis and larynx. In the New-York Hospital, as I am informed by the former house-surgeon, Dr. King, cases of a similar character have occurred in several persons who were scalded on board of one of our steam-boats, from the bursting of the boiler of the vessel. The inhalation of the hot steam produced all the symptoms of acute laryngitis.

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* Edin. Med. and Surg. Jour. Vol. XVI. p. 156.

† Nouveau Journal de Médicine, Janvier 1819, p. 51.

‡ Medico-Chirurgical Transactions. Vol. VI. p. 227.

Diagnosis. As laryngitis destroys life with great rapidity, the physician has frequently but a very short period allowed him in which to put forth the resources of his art for the rescue of his patient. To enable him to use the most prompt and efficacious means for this purpose, it is necessary that it should be clearly distinguished from those of the neighbouring organs, with which it may be confounded.

Tonsillitis. In this disease both the respiration and deglutition are sometimes seriously affected, but as these are occasioned entirely by the inflammation and enlargement of the tonsils, it may readily be distinguished by an inspection of the fauces. In laryngitis, no tumour or swelling of the tonsils is observed, and the difficulty of respiration is not merely greater, but arises from a cause entirely different.

Pharyngitis. The freedom of the respiration in this complaint, while the difficulty of swallowing is exceedingly great, sufficiently distinguishes it from laryngitis.

Trachitis. This is the disease most liable to be confounded with laryngitis, and which it is of the most importance correctly to distinguish, inasmuch as upon it may depend our decision in relation to one of the most essential means of relief, viz. the operation of laryngotomy. Although these two diseases have several symptoms in common, yet I believe, an attentive observer will experience little difficulty in recognising the existence of either, if the symptoms are tolerably well marked. Those which distinguish laryngitis are the soreness of the throat, and the blush of inflammation observed in the fauces, in the onset of the disease—the early and great suppression of the voice—difficulty of deglutition—and the seat of distress being the region of the larynx. In all of these respects it differs very strikingly from croup, in which there is no previous affection of the fauces—no loss of voice—no difficulty of deglutition. In croup, moreover, the disease extends down through the trachea into the lungs, and there is always present that peculiar ringing cough, which is at once recognised by those who have ever heard it.*

Treatment. As this disease consists in an inflammation of the larynx, terminating in effusions, which so far close the rima glottidis as to interrupt regular and healthy respiration, our indications of cure seem to be simple and clear. They are, in the first place, to arrest, if possible, the progress of inflammation, and thus prevent effusion; and, if we should fail in this object, in the second place, by means of an artificial opening in the trachea, to enable the patient to breathe until the obstructions in the larynx may be removed, either by the process of absorption, or by the aid of medicine. Our means for accomplishing the first of these objects are bloodletting—emetics—cathartics—blisters—and mercury. The second requires the operation of tracheotomy.

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* The disease of which General Washington died, although denominated croup by many, I am inclined to consider as laryngitis. The following imperfect account of it is taken from Marshall's Life. It is to be regretted that nothing more satisfactory has been preserved.

"On Friday, the 13th of December, 1799, while attending to some improvements upon his estate, he was exposed to a light rain, by which his neck and hair became wet. Unapprehensive of danger from this circumstance, he passed the afternoon in his usual manner; but in the night, he was seized with an inflammatory affection of the windpipe. The disease commenced with a violent ague, accompanied with some pain in the upper and fore part of the throat, a sense of stricture in the same part, a cough, and a difficult rather than a painful deglutition, which were soon succeeded by fever, and a quick and laborious respiration.

Believing bloodletting to be necessary, he procured a bleeder, who took from his arm twelve or fourteen ounces of blood, but he would not permit a messenger to be dispatched for his family physician until the appearance of day. About eleven in the morning, Dr. Craik arrived; and perceiving the extreme danger of the case, requested that two consulting physicians should be immediately sent for. The utmost exertions of medical skill were applied in vain. The powers of life were manifestly yielding to the force of the disorder; speaking, which was painful from the beginning, became almost impracticable; respiration became more and more contracted and imperfect; until half past eleven, on Saturday night, when, retaining the full possession of his intellect, he expired without a struggle."—*Marshall's Life of Washington*, Vol. V. p. 761, 2.

Although the general principles of treating this disease appear to be thus obvious, yet the little success which has hitherto attended the management of it, even in the hands of the most distinguished professional men, is a sufficient apology for entering upon this part of our subject somewhat more in detail.

Bloodletting. Although almost every writer who has treated of this subject has assigned the first place to bloodletting, and although there are few practitioners who, when called to a case, would not immediately have recourse to this powerful agent; yet it must be conceded, that it does not appear, as the result of impartial experience, that this remedy, even when very liberally employed, has been attended with that decided advantage, which might naturally have been expected. Dr. Armstrong informs us, that out of six cases, there was only one in which venesection was conspicuously serviceable; and in almost all the fatal cases that are recorded, it will be found that this remedy has been pretty freely used. Conceding all this, it does not justify the unfavourable inference which has been drawn by some against the use of bloodletting. Like every other agent in medicine, bloodletting differs entirely in its effects, according to the extent to which it is carried, as well as according to the stage of the disorder in which it is used. And I am inclined to believe, as well from theory as from experience, that in many instances of this disease, where the use of venesection has not been attended with any beneficial consequences, it may be attributed either to its not having been carried to a sufficient extent, or to its having been used at that stage of the disorder when organic changes had already taken place, and when, of course, instead of doing any good, it must be productive of positive injury. In speaking of the extent to which bloodletting ought to be pushed, I do not refer at all to the *absolute quantity* of blood which may be drawn, but entirely to the *effect* produced upon the system. This effect is syncope; and in all cases where the condition of the patient does not absolutely contra-indicate the measure, to bring about this should be the object of the practitioner. The insidious nature of the first periods of this disease, and the rapid progress which it makes to effusion, ought to convince the medical attendant that nothing short of the boldest treatment can rescue his patient from destruction. By ordinary bloodletting it is scarcely possible to reach the seat of disease, remote and circumscribed as it is in the larynx. Even supposing, however, that such a bleeding could reach it, its only effect would be to *moderate* the action in the part. That it could not *arrest* its progress must be evident, when it is recollected how very slight a degree of inflammation in the larynx will produce all the dreadful consequences attendant upon this affection.

The very same reasons which induce me to consider that the ordinary abstraction of blood can be attended with no great benefit in this disease, convince me of the high and unequivocal advantages which result from carrying it ad deliquium. When this effect is produced, the most distant as well as the minutest parts of the system come within the sphere of its influence—it not merely moderates. but it suspends and alters existing actions, at the same time that it relaxes spasm, a symptom which, in a greater or less degree, always accompanies inflammation of the larynx.

In those unfortunate cases where effusion has already taken place under the mucous membrane of the larynx, constituting the œdematous condition of these parts, it is evident that bleeding, however practised, can be of but little service; yet even here, as it is impossible to know positively that such effusion has actually occurred, it may be considered in every respect as the safest practice, and certainly the one promising the greatest chance of relief, to have recourse to a single bleeding, which shall be felt at once throughout the system, rather than to repeated bleedings, the only effect of which must be to weaken and finally exhaust the strength of the patient.

There is another consideration, too, in connexion with this point, of considerable importance. If it shall be found, after bleeding ad deliquium, that the symptoms are not mitigated.

it may with great probability be inferred that such effusion has already taken place, and that other means of relief must accordingly be resorted to. The value of any test by which to judge of the actual state of the parts and of the progress which the disease has made, can only be appreciated by those to whose lot it has fallen to witness the march of this terrific disorder. No such inference can be drawn from the effect of bleeding, which is not carried to the extent already proposed.

Whether the view that has just been taken be correct or not, the result of experience is most decidedly in favour of this practice. It is a highly interesting fact, that of all the cases on record, not one will, I believe, be found to have proved fatal, in which bleeding was carried to the extent which has been suggested.

As the object in this complaint ought to be, to induce syncope with the least sacrifice of the patient's strength, it is proper to suggest, that he should be bled while standing, and from a large orifice.

As auxiliaries to general depletion, the local abstraction of blood from the throat by leeches, scarifications, &c., may be used with advantage, especially where it is not considered advisable to carry general bleeding to any further extent.

Emetics. Next to blood-letting, emetics are the remedies best calculated to afford prompt and decided relief; and they do so, not merely by the relaxing effects which they have upon the whole system, but by the copious secretions which they produce from the mouth and fauces. By most writers they do not seem, however, to have been treated with any thing like the importance justly due to them. In most of the individual cases of the disease which have been published, especially those in Great Britain, emetics are not to be found among the articles which were resorted to. Dr. Armstrong is the only modern writer who insists upon their use in a manner at all proportioned to their value; and he states that he was induced to try them in the commencement of the disorder, from the want of success which had previously attended him in several cases, where he had relied upon copious bloodletting. His practice consisted in giving tartarized antimony combined with ipecacuanha, in repeated doses, until free and frequent vomiting took place. "No circumstance," he adds, "in my professional life ever gratified me more, than the great and sudden relief which the vomiting afforded; in reality it removed all the urgent symptoms at the time, and being excited as soon as even the slightest signs of stricture returned, at last completed the recovery."* Subsequent experience seems to have convinced this very accomplished physician, that in cases where the inflammation runs high, it is not perfectly safe to rely upon emetics alone, to the exclusion of the ordinary means for subduing inflammatory action. That cases may frequently occur, in which emetics, unaided by other remedies, may be fully adequate to the removal of the disease is unquestionable, yet as a general rule, it may be considered as the soundest practice, in every point of view, to premise a copious bleeding, which if it produces no precise effect upon the disease itself, yet is the most efficacious means of preparing the system for the prompt and salutary operation of emetics, an object certainly of very great consequence, and one which is not sufficiently regarded in practice.

Purgatives. Besides unloading the intestinal canal of whatever offensive matter may be present, purgatives may prove beneficial, by lowering the general action of the system, and creating a new centre of irritation, and thereby diverting the flow of blood from the parts labouring under disease. It is in this latter way chiefly that purgatives prove of use in laryngitis. Too much dependence, however, should not be placed upon them, inasmuch as they can at best exercise but a remote influence over the disease, while, from the slowness of their operation, much valuable time may be lost in securing the safety of the patient by other and more efficacious means.

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* Practical Illustrations of typhus fever, &c. by John Armstrong, M. D. &c. p. 336. Am. ed.

Blisters. It has become so much a matter of course to apply blisters in all cases of local inflammation, that to call in question the propriety or efficacy of the practice, may appear to savour of skepticism, in relation to remedies sanctioned by time and experience. Notwithstanding this, I cannot conceal the expression of my belief that in the disease under consideration, blisters have not proved of that unequivocal utility which might naturally have been expected. In almost all the cases which have terminated fatally, blisters have been used, and in some to a very unexampled extent. It is possible, however, that the want of success may have been owing to other circumstances; and it is proper to state, that in some successful cases *very large* blisters were applied. By Sir Gilbert Blane this fact is much dwelt upon in recommending this remedy. Admitting blisters to be proper in laryngitis, it is of consequence to determine at what stage of the disease they are most proper, and where they should be applied.

From the view which has been taken of this disease, it is perfectly obvious that if they are to do any good at all, they must be used very early. In every point of view, it is the best practice to apply them immediately after venesection. The next point to be determined is, whether they should be applied directly over the part affected, or at a distance from it. If the effects of a blister be, as they undoubtedly are, to excite local irritation, and, as a consequence of this, to produce a current of fluids to the blistered part, then it would seem to be self-evident, that they should never be placed too near the original seat of disease, as their effect must necessarily be that of increasing the afflux of the fluids upon organs already labouring and oppressed from this very cause. In the case of laryngitis, from the vicinity of the diseased organ to the surface over it, it appears plain that the application of a blister to the throat must increase the determination of blood to the larynx; and if this is the fact, the practice is very clearly improper. Independently of this consideration, the application of a blister to the throat may be rendered objectionable by its interfering with the use of leeches. The situations most appropriate, perhaps, for this remedy, are the chest, abdomen, or the insides of the thighs; and that some substantial good may be derived from them, they should be of a large size, and kept running during the disease.

As the disease of which we are speaking is frequently exceedingly rapid in its course, it is of importance in these cases that vesication may be excited as speedily as possible. For this purpose, instead of ordinary blistering, the same effect may be produced either by scalding water or by nitric acid.

Calomel. After the use of depletion and emetics, to break the violence of the disease, there is no article within the knowledge of our art which can be trusted to with such just confidence for accomplishing a cure as calomel. To be effectual, however, it must not be used with a timid hand. From the great rapidity with which the disease frequently runs its career, it is evident, that unless introduced with such decision as to bring the system speedily under its influence, mercury can be of no service. It should be commenced with, therefore, early in the disease, and should be unwaveringly persisted in, until this object is accomplished. There is nothing which can supply its place, and scarcely any symptom which can contraindicate its use. The high general inflammatory action characterising some of the phlegmasiæ, and which renders the use of mercury so frequently improper, is, as we have seen, very seldom present in laryngitis; and if it should be in the commencement of the disorder, it will have been sufficiently subdued by the previous bleeding and emetics. On this ground, therefore, nothing is to be apprehended from its use. Besides this, another advantage attending it is, that it cannot interfere with a single other measure that may be thought advisable. With regard to the extent to which mercury should be carried, I would insist in an especial manner upon the necessity of producing free ptyalism in every case where it can be effected. Independently of its being the only certain criterion by which to judge that the system is under its influence, the greatest advantages are to be expected from the copious secretions which are thus produced from the glands of the mouth and throat. At any rate, whether it be explained upon this principle or not, it is only when carried to this extent, that calomel has proved eminently successful. In many cases in which this remedy has been used, without however occasioning salivation, the disease has nevertheless terminated fatally. Yet I have not met with a single one which did not end favourably in which the mouth became affected.

Tracheotomy. When all our efforts at subduing the inflammation in the larynx have failed, and we find the obstructions to respiration constantly increasing, the only resource left is to make an artificial opening into the windpipe. That this may be done without the least hazard has been proved by multiplied experiments,* and the success which has recently attended its employment in laryngitis, should encourage us to a repetition of it in all cases where other means have proved ineffectual. There are two circumstances more particularly deserving of attention in relation to this operation, and on which its success may be said principally to depend. The first is, that it should not be delayed until the last stages of the disease, when the patient is already sinking under the prostrating effects of long impeded respiration. To perform the operation under these circumstances, may indeed display the dexterity of the surgeon, but it can be of no benefit to the suffering patient. Whoever has attentively read the histories of the cases which are upon record, cannot but have been forcibly struck with the truth of this remark. The other circumstance to which I allude, is the size of the opening made into the trachea. In the ordinary way in which the operation is performed, the orifice speedily closes, or if kept open by a canula, the irritation occasioned by the presence of a foreign body would be such as to produce great irritation in the parts, and thus jeopardize its ultimate success. To obviate these effects, Mr. Carmichael, in a recent case of laryngitis, made a large opening into the trachea, by cutting away portions of the rings. The complete success which attended the case, together with the just reasoning of that distinguished surgeon in relation to it, is sufficient to establish it as a great improvement in the mode of performing this operation.*

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* For an elaborate detail of facts on this point, see an interesting paper by WILLIAM LAWRENCE, Esq. in the Medico-Chirurgical Transactions of London. Vol. VI. p. 221.

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* I cannot do better than quote the interesting account of this operation as furnished by Mr. Carmichael.

"Having ascertained the lower edge of the thyroid gland, an incision, about an inch and a-half in length, was made through the integuments from this point to within a finger's breadth of the sternum. The incision was continued between the sterno-hyoidei and the sterno-thyroidei muscles, until the rings of the trachea were fairly exposed. This momentous part of the operation was performed in a few seconds; for with the aid of my assistants, who separated the lips of the wound by means of retractors, I was enabled to see the parts which it was necessary to divide; and by the fore-finger of the left hand I successively felt each part previous to the application of the knife, the edge of which, after the division of the skin, was directed constantly upwards during the subsequent parts of the operation; and these precautions were a sufficient security against wounding the arteria innominata, which sometimes rises above the sternum, or from dividing any known or anomalous arterial branch of magnitude which might course in front of the trachea.

"This was all happily accomplished, with very little delay, and the loss of a very few drops of blood, notwithstanding the difficulty which the perpetual motion of the trachea opposes in a person incessantly gasping for breath: two, or perhaps three, of the rings of the trachea were then divided from below upwards, and this opening was immediately widened by means of a large pair of sharp-pointed scissors, such as I employ for the operation of hare-lip. With these I had provided myself, knowing from previous operations the difficulty of removing by the knife a slip of the rings of the trachea, as recommended by Mr. Lawrence. Some little address is necessary in performing this part of the operation. The sharp point of one blade was introduced at the lowest part of the opening in the trachea, and directed outward so far as to admit, on the closing of the blades, of the division of an extent of the tracheal rings, equal to one half of the opening already made in them; the flap thus made was laid hold of by a pair of dissecting forceps; the point of the scissors was again introduced into the trachea, where the last incision terminated, and carried inwards towards the central opening. Similar incisions in the same manner

In concluding these observations, it was my original intention to have added a series of cases. The great length, however, of the preceding paper, prevents me from giving more than the three following. For the particulars of the first I am indebted to my friend, Richard K. Hoffman, M. D. of the United States Navy. It is a melancholy instance of the overwhelming rapidity with which the disease sometimes destroys its victim. The second case occurred in the person of my colleague, Dr. John W. Francis, and is particularly interesting as presenting more of the general inflammatory, as well as protracted character, than is usually met with in this disorder. The third is a rare and curious case, translated from the memoir of M. Bayle.

CASE I.

At one P. M. on the 10th April, 1823, a servant called at my office, requesting me to hasten to Mr. M. whom she reported to be choking to death. Taking with me some emetic medicines, a probang, and polypus forceps, which were at hand, I immediately attended. On entering the room, I was struck with the extreme anxiety expressed on the patient's countenance. His neck was denuded—the larynx moving violently up and down—his eyes staring—face flushed, and covered with drops of sweat. His whole frame was agitated, and the difficulty of breathing appeared almost insufferable.

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were made on the opposite side, and a diamond-shaped opening, capable of admitting the point of the little finger with ease, was left in the trachea.

"The patient coughed up a large quantity of thick viscid phlegm through the opening, and seemed so much relieved, that the appearance of suffocation and excessive anxiety which her countenance displayed previous to the operation, immediately disappeared. I am satisfied that if the operation had been confined in this, as well as in other instances which have occurred to me, to a mere division of the rings of the trachea, that no beneficial result could have followed the measure; and that even the introduction of a tube, which is objectionable on two accounts, would not be attended with any advantage; for, first, a tube excites intolerable irritation, with violent fits of coughing; and, secondly, the apertures in it cannot be sufficiently large to permit the expulsion of the viscid phlegm which accumulates in most of those cases where Tracheotomy is necessary."—Transactions of the College of Physicians of Ireland, Vol. IV. p. 312.

He pointed to a glass, containing a mixture of Cayenne pepper and vinegar, and applying his hand to the throat, reiterated, in a hurried whisper, 'Can't breathe, can't breathe—Cayenne pepper,' &c. On attempting to swallow a little water which was handed him, it was convulsively ejected from the mouth. I seated him near the window to examine the fauces; they were rather more red and tumid than natural, but presented to the view no other morbid nor extraneous impediment to respiration. A vein was opened in each arm (using his cravats for ligatures) and bled freely; but death supervened from suffocation, with a rapidity as great as if a strict ligature had been made on the trachea.

In the short interval, not exceeding ten or fifteen minutes, from the time of my arrival, until the fatal termination of the case, no account of the previous symptoms could be obtained. It was now ascertained that he had complained of soreness of the throat the evening before, as well as at breakfast, but was not prevented from engaging in his mercantile pursuits that morning. Experiencing some difficulty of breathing, however, he returned home earlier than usual for dinner, and erroneously believing his complaint arose from the palate being down, resorted to the mixture of Cayenne pepper for relief a few moments before I was called in.

On the following morning, the parts concerned in the disease, as well as the pharynx, fleshy palate and tongue, were detached for examination. The mucous membrane of the fauces appeared slightly inflamed, while that of the rima glottidis especially, was so distended by a visible congestion of the blood vessels, together with an effusion of serum in the subjacent cellular texture, as effectually to conceal and shut up the passage to the windpipe. This inflamed and œdematous condition of the mucous membrane was apparent throughout the larynx, and traces of inflammation extended down the trachea, as far as its bifurcation, where our researches terminated.

The subject was in the prime of life, of a strong constitution, sanguine temperament, and of a plethoric habit of body.

It was a source of satisfaction to the numerous relatives of the deceased, that two gentlemen of the highest eminence in the profession arrived almost simultaneously with myself.

CASE II.

Dr. J. W. F. of a sanguine temperament, and of a robust constitution, had been complaining for three or four days of soreness about the fauces, accompanied with some degree of hoarseness and continual sense of thirst. These symptoms were accompanied with considerable difficulty in deglutition, unattended, however, by any cough or expectoration. On the morning of the 17th of Nov. 1823. on examining the throat, I found the fauces inflamed, but no tumefaction. About the middle of the day, the patient was seized with an increased sense of tightness about the throat, attended with pain, great anxiety in breathing, difficulty of swallowing, and a sense of strangulation. After continuing for a few moments, these symptoms gradually abated, but were again renewed with increased violence after a short interval. Blood was immediately taken to the amount of forty ounces, after which an emetic of tartarized antimony and ipecacuanha, was administered. The emetic produced no effect. Sulphate of soda, oz.j. was shortly after ordered.

7 P. M. No abatement of the symptoms; pulse full and strong, and about 120 in a minute; skin hot and dry; the difficulty of respiration, as well as of deglutition, still continuing, blood was again drawn to the amount of oz. xx.

18th. 9 A. M. During the night, the patient had suffered great restlessness, accompanied with much local distress about the throat. This morning his uneasiness was excessive, in consequence of the difficulty of his respiration, and the frequent returns of the sense of strangulation. On pressing the region of the larynx externally, considerable soreness was complained of. The pulse still remaining full and strong, the patient was again bled oz. xvi. and put upon the use of the solution of tartar emetic. A blister was also applied to the throat.

7 P. M. No abatement in the force or frequency of the pulse having taken place. oz. xvi. of blood were drawn.

19th.—9 A. M.—No amendment—general excitement of the system still great—pulse upwards of 100, and full.—v. s. ℥xvi.—leeches to the throat, and a blister to the chest. The antimonial solution still continued.

In the afternoon, ℥xvi. more of blood were taken; and in the evening ten grains of calomel were ordered.

20th.—9 A. M.—Little or no abatement of the general or local symptoms.—v. s. ℥xvi.—calomel and James's powder, in the proportion of four grains of the former and six of the latter, were directed to be given every three hours.

21st.—No alteration of consequence in the condition of the patient—continue calomel and James's powder.

22d.—The excitement in the system being evidently increased, it was deemed proper to abstract more blood: ℥xii. were accordingly taken—the calomel was still continued.

23d.—The patient states that he feels a slight moisture in the mouth and throat, the first which he has experienced since his attack. In the course of the day the gums became affected. The use of the mercury was now stopped, and another blister ordered to be applied to the throat.

24th.—Pulse still greatly excited: 120 to 130 in a minute.—v. s. ℥xvi.—tart. emet. solution every two hours; at night, Dover's powder grs. x.

25th.—Rather better—continue tart. ant. and renew blister to chest.

26th.—Considerably better during the day.

27th.—During the night, the patient was attacked with a return of the fits of strangulation; they were repeated every five or ten minutes; and to such a degree as almost to threaten the immediate extinction of life. An emetic of tart. ant. and ipecac. was instantly given, without producing any effect. In half an hour another was administered. No vomiting was induced. Great relaxation, however, ensued shortly after, which was succeeded by a profuse perspiration, affording decided relief. The spasms gradually subsided on this effect being produced.

10 A. M.—v. s. ℥xvi. The patient fainted from this bleed-

ing, the first effect of the kind which had yet taken place, notwithstanding the numerous and copious abstractions of blood. After this an emetic of sulph. zinci ʒss. No effect by vomiting—produced great distress, and pretty copious secretion from the mouth.

For the purpose of keeping up the relaxation induced by the last venesection, tart. emet. gr. ¼. ipecac. gr. ij. were ordered every two hours.

28th.—Rather better—pulse, however, still 120. continue the tart. emet. and ipecac.

29th.—Much better—pulse softer, 100—skin moist—expectoration very copious—slight cough—mercurial fætor very great. Discontinue the tart. emet. and ipecac.—a dose of senna and manna was ordered, to open the bowels.

From this time he continued gradually to improve. The expectoration, however, remained very profuse for about two or three weeks. After that it subsided, and the patient recovered his usual health. His voice, however, has never recovered its accustomed tone; and, after a year's interval, it is still hoarser than natural. This case was attended by Drs. Hosack, Post, McLean, and the writer.

CASE III.

Aneurism of the Aorta, simulating the Œdema of the Glottis. Stephen Pillet, cartwright, aged 48 years, of high stature, and very robust complexion, having his muscles well developed, countenance naturally pale, the beard and the hair on the head of a deep brown, entered the Charité on the 29th of November, 1808. He had then been sick six months, according to his own account, in consequence of a checked perspiration. He coughed and expectorated a great quantity of glairy and soapy matter; his voice was hoarse, his respiration was troublesome and noisy. Each inspiration was attended with a sort of hissing, or rather a particular sound, which might have been compared, if it had been a little more acute, to that which is produced in blowing strongly upon a hautboy; expiration, on the other hand, was free and easy. The patient experienced often a slight pain in the larynx: the least exercise considerably increased the dyspnoea, without causing, however, any palpitations of the heart. The pulse was sufficiently regular in the left arm, but none was perceptible in the night. This peculiarity was known to the patient, who regarded it as natural. The digestive functions were properly exercised, his size was little diminished, his flesh was firm, and without the appearance of infiltration. Six weeks before his entrance into the hospital, a seton had been made in the back of his neck, which had appeared to diminish somewhat the dyspnœa and the hoarseness ; about the middle of December it was closed.

The only means which were employed, were the milder aperient drinks, and the theriac in small doses.

Towards the middle of January, the cough and expectoration were sensibly lessened ; respiration seemed to be somewhat more free, and less noisy ; the patient walked in the yard of the hospital during the whole day, without materially increasing the dyspnœa ; he ate with a voracious appetite ; he became thin, nevertheless, but slowly ; he had no fever at any time, nor even any heat of skin ; he constantly felt an uneasiness, and sometimes a little pain in the larynx.

On the twentieth of January, he complained of a slight sore throat, which he had had for some time ; and in reply to questions put to him, he declared that he had suffered under several venereal affections. At the same time it was thought that some redness could be perceived in the veil of the palate and about the larynx. All these considerations determined the physicians to prescribe a gargle, together with a spoonful of the liquor of Van Swieten, which did not, however, produce any effect.

On the 26th, Pillet, having dined as ordinary, was seized a short time after, with a violent paroxysm of orthopnœa ; he could not breathe, unless when seated, stooping forwards, the arms extended, or clinging to the bedside. In this condition, the sound produced by each inspiration was much more loud than usual, the face becoming red in colour, and bordering upon the violet; the pulse was hard, slow, and unequal. At nine in the evening, a large blister was applied on the fore part of the neck. Towards midnight, respiration became more easy, and the next morning he was found, as in the preceding days, lying on his right side, breathing without much difficulty, but always with the same hissing sound accompanying each inspiration.

Towards evening, a new paroxysm of orthopnœa occurred much more violent than the last, and which had not abated as yet on the next morning's visit. The violet colour of the face, the extreme smallness of the pulse, announcing death to be at hand, three grains of emetic were administered, and a new blister applied, after leaving the part irritated with ammonia.

The patient did not vomit, had some small stools, and expired an hour after taking the emetic.

Autopsical examination twenty hours after death.—The larynx was found to be in its natural condition, to the great astonishment of those who had seen the patient. In the hinder part of the mouth, and in the pharynx all was healthy.

The lower portion of the trachea was compressed and flattened from before, backwards, by an aneurismal tumour, a little thicker than the fist of a man, and of a rounded form. This tumour was formed by the aorta, considerably dilated from about an inch above its origin, to where it is buried between the two pleuræ. The bulging of this artery was chiefly on the posterior side, and at the expense of its posterior coat, so that the tumour, although voluminous, did not touch the sternum nor the ribs, but it bore on the vertebral column, compressing the teachea, to which it intimately adhered by a portion of its surface as large as a sous. The cavity of the sac included a good deal of blood partly coagulated; its sides were strengthened by a layer of fibrin, about an inch thick in some places, but very thin, and almost entirely worn away towards the centre of the posterior side, where it had adhered to the trachea. In this place, all the coats of the artery were destroyed, the surface of the trachea corroded, and several cartilaginous rings denuded, and as it were dissected, and projecting into the aneurismal sac. Thus the mucous membrane was the only barrier to the irruption of the blood into the trachea, and this would have been soon removed, if the death of the patient had not prevented it, because the mucous membrane already presented a circumscribed spot of a livid red, which appeared to be the commencement of an eschar.

The remaining surface of the sac was free, and offered the same appearance as a healthy aorta. The internal membrane seemed wholly untouched. I observed, however, a slight ossification about the size of the nail of the small finger, at the place where the sac was contracted abruptly to form the continuation of the aorta. There were five or six nearly similar ossifications, dispersed here and there in the internal part of the thoracic and abdominal aorta. This artery had, in all its extent, a more strong calibre than is natural.

The arteria innominata, the sub-clavian, and left carotid rose from the very centre of the aneurismal sac. The trunk of the first had almost entirely disappeared, so that on first examining it, the right carotid and sub-clavian seemed to rise isolated, and more than an inch's distance from each other. The last, (right carotid) traversed in an oblique direction, and for about an inch, the thick walls of the sac, in nearly the same manner as the ureter traverses the membranes of the bladder. By this accidental disposition the passage of the blood through the right sub-clavian must have been intercepted, whilst the sac was distended with blood.* No other alteration was perceptible in this artery.

All the other arteries, and the heart itself, were natural.

The lungs were soft, and little elastic, but otherwise healthy. The left bronchia, which was principally compressed by the sac, was gorged with a thick, ropy, and somewhat frothy mucus. The right bronchia was round: so were all the other organs of the body, &c.

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* This accounts for the absence of pulsation in the arm of that side.

ART. II. *On* PARTIAL PARALYSIS *of the Face.* By EDWARD DELAFIELD, M. D. Read before the New-York Physico-Medical Society, July 1st, 1823.

THE study of anatomy presents to its zealous prosecutor such an endless variety of subjects to engage his attention, that it is not surprising, after so many centuries have elapsed, during which the human body has been minutely and carefully examined, that frequent discoveries are made in this most interesting branch of science. Much as has been added to our stock of knowledge within a few years, with regard to the structure of the human body, still more has been done in ascertaining the *functions* of parts, whose use had been heretofore imperfectly understood. Among other subjects, anatomists have, recently, in different parts of Europe, made great advances in the minute dissection and display of the nerves; but whilst the old doctrines prevailed, " the discovery of new branches of nerves, and new ganglia, only involved the subject in deeper obscurity." To Mr. Charles Bell we owe it, " that the nervous system, hitherto the most unsatisfactory part of the physiologist's studies, has assumed a new character. The intricacies of that system have been unravelled, and the peculiar structure and function of the individual nerves ascertained: so that the absolute confusion in which this department was involved, has disappeared, and the natural and simple order has been discovered."

The attention of the author of this paper was drawn to this subject by meeting with several cases of partial paralysis of the face, a disease which he had imperfectly comprehended before he became acquainted with Mr. Bell's new doctrine of the nervous system. To make the subject better understood, it will be necessary to make a brief abstract of this doctrine.

Mr. Bell divides the nerves of all animals into two parts or systems, the one simple and uniform, the other irregular and complex, in proportion to the complexity of organization. In distinguishing them, the guiding principle is obtained by ascertaining what parts of the structure of the animal are necessary to life and motion; and what organs are superadded, as the animal advances in the scale of existence, as necessary to higher and more complex enjoyments and actions. Where an animal is endowed with mere sensation and locomotion; where there is no central organ of circulation, and no organ of respiration, but what is generally diffused over the frame, the nerves are extremely simple. They consist of two cords running in the length of the body, with branches going off laterally to the several divisions of the frame. In the human body, we find the same *symmetrical* system of nerves as in these lower animals, although obscured by a variety of *superadded* nerves. These additional nerves belong to organs, which, tracing the orders of animals upward are observed gradually to accumulate until we arrive at the complication of the human frame. In examining, more particularly, we find that no organ which possesses only one property, or endowment, has more than one nerve, however exquisite the sense or action may be; but if two nerves, coming from different sources, are directed to one part, this is the sign of a double function performed by it. If many distinct nerves go to it, it possesses many distinct powers, or enters into different combinations, in proportion to the number of its nerves. The function which in the human body, serves most materially to complicate the nervous system, is that of respiration; comprehending under it all the nerves which serve to combine the muscles employed in the act of breathing or speaking. All these nerves, Mr. Bell ranks in the class of *superadded* nerves, and distinguishes them by the name of "respiratory nerves." When we recollect how much the respiratory action is extended and increased in a man excited by exercise or passion; when we see instead of the gentle and scarcely perceptible motion of the chest, as in common breathing, the muscles of the throat and neck violently drawn, and the lips and nostrils move in time with the general action; when we observe that some hundred muscles are thus employed in the act of breathing, or in the common actions of coughing, sneezing, speaking, and singing; and that they cannot be associated without cords of connexion or affinity, which combine them in the performance of these actions; we form some idea of the vast complexity which the function of respiration adds to the nervous system; and yet discover that all these nerves are unconnected with, and independent of another complete system which supplies these very muscles with nerves which order their voluntary motions, and give them sensibility.

This doctrine has been made practically useful by Mr. Shaw, who assisted Mr. Bell in his experiments on the subject. He has shown "that when one system of nerves is affected, the symptoms are different from those following a disease of the other, and that the two systems are seldom affected at the same time," and, "that in common cases of hemiplegia or palsy after apoplexy, the muscles are paralysed only in those voluntary actions, the perfection of which depends on the nerves of the original or *symmetrical* class; while in the case of partial paralysis of the face, in consequence of an affection of a nerve of the *superadded* system, the muscles are deprived only of the power over those actions which are to a certain degree involuntary, or to perform which, it is necessary there should be a combination with the organs of respiration;—and hence it necessarily follows, "that the two kinds of paralysis seldom or never depend on the same cause, and that, consequently the plans of treatment must be widely different in each case.

The cases to which I have alluded, and which drew my attention to this subject, were instances of paralysis of all the muscles on one side of the face, supplied by the portio dura of the seventh pair. Mr. Bell's experiments upon animals have proved how exactly the symptoms arising from a division of the trunk of this nerve, correspond with those which appear in the disease in question. All the muscles which it supplies, are in some way connected with respiration, and serve also to express the various emotions of the mind, so remarkable in the human countenance, although not entirely peculiar to it. In the first of Mr. Bell's experiments, the nostrils of the animal being confined for a few minutes, so as to make it pant and forcibly dilate the nostrils at each inspiration, the portio dura was divided on one side of the head: the motion of the nostril on the same side instantly ceased, while the other nostril continued to expand and contract in unison with the motions of the chest: the animal being untied and food given to him, he ate without the slightest impediment. In another animal, the superior maxillary branch of the fifth pair was divided: no change took place in the motion of the nostril; the cartilages continued to expand regularly in time with the other parts, which combine in the act of respiration; but the side of the lip was observed to hang low, and it was dragged to the other side. The same branch of the fifth pair was divided on the opposite side, and the animal let loose. He could no longer pick up his corn, the power of elevating and projecting the lip, as in gathering food, was lost.

From these and other experiments, Mr. Bell concluded, that the portio dura of the seventh, is the respiratory nerve of the face; that the motions of the lips, the nostrils, and the velum palati, are governed by its influence, when the muscles of these parts are in associated action with the other organs of respiration. The action of sneezing and coughing, is entirely confined to the influence of the respiratory nerves. When carbonate of ammonia was put to the nostrils of the ass, whose respiratory nerve had been cut, the side of the nose and face where the nerves were entire, was curled up with the peculiar expression of sneezing; but on the other side, where the nerve was divided, the face remained quite relaxed, although the branches of the fifth pair and the sympathetic were entire.

My object in this paper is to prove the truth of Mr. Shaw's deduction from these facts, viz. that the muscles supplied by the superadded nerves, may be paralyzed by a disease of those nerves, independently of any affection of the brain itself, or of those parts supplied by the class of original or symmetrical nerves: and that treatment directed to the removal of the disease of the affected nerves, will remove the paralysis. Mr. Shaw's cases were all of such long standing, that he had no opportunity of testing the result of a mode of treatment on these principles. I have been so fortunate as to meet with several cases so recent, as readily to yield under this treatment.

CASE I.

N. Van Dine, captain of an American merchant vessel, in consequence of exposure to cold during the night, was attacked with rheumatism, affecting the neck, shoulder, and hip of the left side. This disease continued with unabated violence during twenty days, when he was seized with violent pain in the left ear, and behind the angle of the jaw. The next day he found the left side of the face paralyzed. He was at this period at sea, on his voyage home, and it was six weeks after the appearence of the disease, before I saw him, which was in December 1822. The face was then nearly in the condition in which it was first attacked. On a first view of it, nothing remarkable was perceived, except that the right angle of the mouth was slightly drawn to one side. The moment, however, that he spoke, the whole face was horribly contorted, and when he smiled or laughed, this took place in a still more extraordinary manner. In either of these actions, the left side of the face remained entirely passive, while the muscles of the right were in full action. In consequence, the angle of the mouth was drawn very much to one side. Not only the muscles of the left side of the mouth and nose were paralyzed, but those also of the eyelids and forehead. Consequently, the patient could not close the left eye, and it had become inflamed, and its sight much impaired. When the muscles on the right side of the forehead were in action, and the brow was wrinkled, the skin on the left side was perfectly smooth. He complained also of some difficulty in moving the tongue, and when it was thrust out of the mouth, it was drawn to the right side; this caused some difficulty in speaking, and his voice was thick and indistinct. All these paralyzed parts it will be recollected, are supplied by branches of the portio dura, while on the other hand, the muscles in the face supplied by the fifth pair, retained their powers unimpaired. He could close his jaws with equal force on both sides; the action of the buccinator and orbicularis oris continued perfect; and the sensibility of the skin of the paralyzed cheek was not at all diminished.

In this case, it was evident that the paralysis arose from a transference of rheumatic inflammation to the portio dura of the seventh pair. Under this impression, the patient was ordered to be cupped over the origin of this nerve, and immediately afterwards, a blister drawn in the same situation. The cupping was directed to be repeated as soon as the blister healed, and the blister reapplied. The prescriptions were but carelessly attended to; the cupping and blistering were performed but twice, and that at the interval of some weeks. Considerable improvement in the appearance of the face, notwithstanding, took place; but the patient again embarking on a voyage, I never ascertained the result of the case.* The effect of the treatment in this case, although unsatisfactory, was sufficiently successful to encourage me to repeat it in the next, which soon afterwards occurred.

CASE II.

Miss Adeline B——, aged 17 years, applied to me on the 5th of March, 1823. A fortnight before I saw her, she had begun to feel a severe pain behind the angle of the jaw, and below the ear, on the left side of the face, which continued gradually increasing for a week. At this time she was exposed to a severe snow storm, and immediately on arriving home, felt her mouth drawn to one side. In a few hours the left side of the face was completely paralyzed; she had all the symptoms which I have detailed in the previous case, and these had gradually increased until I saw her. She was immediately cupped, a blister drawn over the origin of the portio dura, a cathartic of calomel and jalap ordered to be taken immediately, a pill of one grain of calomel directed to be taken every night, and ½oz. of sulph. magnes. every morning.

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* I have since learned that this patient entirely recovered a short time afterwards.

On the 12th I saw her again, and there was a great improvement in all the symptoms; the mouth was but slightly drawn in smiling or speaking, and she could almost close the left eye. The cupping and blistering were repeated, and the other treatment continued. On the 24th she was perfectly cured. This patient was affected with the same disease, when six years of age, but in a slighter degree. It continued between two and three months, and then gradually subsided, until it was perfectly cured.

CASE III.

Theresa Waters applied at the Eye Infirmary in the month of April 1823. She had been the subject of partial paralysis of the jaw in December last. On the 10th of December, 1822, in consequence of unusual exposure to cold in washing clothes, she was suddenly seized with acute pain below the left ear. This continued two days, when she discovered that the left side of her face was paralyzed, the mouth drawn to one side, the eye incapable of being closed, and watering profusely, with the other symptoms of this disease. She was not prescribed for by any physician, but first applied a poultice to the seat of the pain, which gave her some relief. After three weeks had elapsed, she began to apply blisters to the same situation, which were repeated three times. Under this treatment she slowly improved, and when I saw her, very little remains of the disease could be discovered.

CASE IV.

On the 10th May last, I was requested to see Mrs. Mary Ann Ray. Three weeks before I saw her, she was attacked with violent pain in the head and neck, accompanied with severe inflammatory fever. She was bled, and took a purgative, which relieved the febrile symptoms, but the pain in the head continued, varying in violence, with little abatement, for a fortnight. At this time it became fixed in the right ear, and behind the angle of the jaw; it subsided, however, in a few days; and suddenly all the symptoms of partial paralysis of the right side of the face appeared; and in this case to a greater degree than I had yet seen them. The mouth and tongue were so much affected, that she could articulate very indistinctly, and certain words she could not pronounce at all. The eye was widely open, slightly inflamed, and watering profusely, and by the strongest effort it was not possible to close it. In this situation she had been about a week, gradually growing worse. I ordered six leeches to be placed over the trunk of the portio dura, and a blister to be afterwards applied. She was also directed to take gr. ij. of calomel every other night, and ℥ss. of sulph. magnes. on the following morning. In a few hours after the application of the leeches, she was much better; the eye could be half closed, and the mouth was less drawn aside in speaking or smiling. On the 25th, the leeching and blistering were repeated. The improvement was now rapid; and on the 2d June, fifteen days after I first saw the patient, no vestige of the disease could be discovered.

CASE V.

Dear Sir,

The case of paralysis of the face, which lately fell under my observation, occurred to an unmarried female, about 30 years old. She was attacked, a week before my first visit, with violent pain, as she then said, in the left ear, which, in a short time extended over the whole of that side of the face and head. There was slight redness beneath the ear, which gradually spread upon the cheek. Fomentations with brandy and laudanum were applied to the ear and face, and vol. liniment to the back of the neck. The redness of the part had now disappeared, and the pain in some measure abated, so that the patient had resumed her ordinary employment of sewing. There was nothing unnatural in the appearance of the face when she was composed and silent, excepting a comparative smoothness of the side affected, which, without examination, might easily have been ascribed to diffused swelling;

but when she spoke or laughed, it was discovered, by a most ludicrous expression of countenance, that the muscles and integuments of the part affected were immoveably fixed. The eye of that side had not been closed in some days, while the muscles employed in mastication retained their function.

Although I was at that time unacquainted with the precise nature of the disease, as explained in the valuable paper of Mr. Shaw, its origin and progress were readily recognised to be those of an affection of the portio dura. The patient was actively purged for a number of days in succession without any apparent benefit. She was then cupped, and blistered behind the ear. The blistering was repeated behind and before the ear alternately for some weeks. The muscles were gradually restored to action, so that in about four weeks from the attack, the eye could be opened and shut at will, and the expression of the countenance became natural.

Yours respectfully,

A. W. IVES.

June 30th, 1823. Park-Place, No. 3.

It is unnecessary to make any remarks upon the treatment of this disease. That pursued in the cases just detailed is sufficiently obvious, and precisely what is pointed out by the general principles of medicine in the treatment of local inflammation, wherever subsisting. It is sufficient to have established the nature and cause of the disease. The method of treatment flows so directly from these, as to require no farther elucidation.

ART. III. OBSERVATIONS *and Experiments on the Medicinal and Poisonous properties of the* MANCINELLA TREE. By J. B. RICORD MADIANNA, M. D. Read before the Lyceum of Natural History of New-York, April 1824.

[Continued from p. 319.]

Of the mancinella root.

I chewed a piece of this root, and having kept it ten minutes in my mouth, found it entirely tasteless; my saliva was slightly tinged with a yellow colour. At the time I had no sensation of any thing, either on the tongue or the palate; but half an hour after, I felt a smarting heat on my tongue, mouth, and throat. In two hours the smarting and burning were very severe; I salivated considerably, and was obliged to keep cold water in my mouth, the pain becoming insupportable. These symptoms were much diminished in five hours, and the next day all disappeared.

Cold infusion of the root.

I left two ounces of these roots to infuse in eight ounces of water during six days.

First Experiment.

Two table-spoonsful of this infusion given to a small dog produced no effect; nor did eight given to another dog of the same size.

Decoction of the root.[*]

This decoction is the colour of bistre; I held my hand in it ten minutes still warm, without experiencing any ill effect. I tasted it and found in it some sharpness and astringency.

Experiments.

At 9 o'clock in the morning, I gave two table-spoonsful of this decoction to a small dog; five minutes after his abdomen was much agitated, he voided some blood and urine very copiously; appeared to have much nausea, but without vomiting. At half past nine he voided mucus by stool; he coughed much, and continued from ten to eleven o'clock voiding blood and mucus; he was unable to stand, and refused all nourishment. From one till five he was less agitated, and appeared to suffer less; at eight he urined copiously, the parotid gland was much swelled; he ate and walked pretty well. The next day he was somewhat weak, but was perfectly cured in a few days. I repeated this experiment several times, and always with the same result, having given as much as eight table-spoonsful of a still stronger decoction to a small dog, from which death did not ensue. It appears that the mancinella root is much less venenous than the milk, the leaves, or the fruit, and that the *gastro-enteritis* produced by it, is rarely ever sufficient to effect the disorganization of the tisses.

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[*] This decoction was made with six ounces of the root, and two pounds of water reduced to one pound.

Of the leaf.

Leaves exteriorly applied. Having gathered these leaves from the tree, I bruised and rubbed them in my hands without any result. I pounded a number, and with a few drops of water made a cataplasm, which I applied to the back of my hand, where I left it two hours without effect. Was it not the emanation arising from the tree, which produces the eruption already spoken of, and could the rain falling from the leaves produce this eruption? The leaves themselves, freshly gathered and applied to the skin as in the above experiment, would surely have the same effect. I have also held my hand during five minutes in a warm decoction of these leaves, without suffering from it. If, however, they should, through inadvertence be applied to the anus, as has happened to several persons, having a certain call on the seashore, they cause violent inflammation and extreme pain. Though the juice of the mancinella leaf produces no eruption when applied to the skin, it nevertheless causes much inflammation, when put in contact with the mucus membranes, and is a more dangerous poison than any other part of the tree.

Juice of the leaves applied beneath the epiderm.

I bruised a certain quantity of fresh leaves, and squeezed the juice into a wound made with a scalpel, in the thigh of a large dog; he did not appear to suffer from this application; the day after the wound was in suppuration, and in six days the cicatrix was formed.

The juice of these leaves put in the eye of a dog produced so violent an inflammation, as to make it probable that the animal would have lost the sight of it, but in the space of eight days, it was perfectly cured without using any remedy: not even the least opacity remained in the cornea.

Leaves taken internally.

First experiment. Cold infusion. I infused thirty-six mancinella leaves in a glass of water, for the space of fifteen hours, and taking some in my mouth, I found it tasteless. I gave more than the half to a small dog, which was not in the least incommoded; he ate as usual; I swallowed a part of what remained without any ill effect.

Second experiment.

Vapour arising from the decoction. While boiling an ounce of the leaves in ten ounces of water, I uncovered the vessel containing the decoction, and inhaled the steam arising from it. Immediately after, I experienced a sensation of burning heat in my mouth; the mucus membrane which covers the mouth was filled with very small pimples, and the smarting was so extreme, that I was obliged to hold cold water in my mouth, and renew it very frequently. Two hours after the pain became supportable, and in the course of the day was felt no more. I coughed a little during the day. The pain occasioned by this vapour was more violent than that caused by the root of the mancinella.

Third experiment. At 3 o'clock P. M., I gave three large table-spoonsful of a strong decoction of these leaves to a dog, which in a few minutes created nausea, and occasioned a considerable salivation, vomiting, evacuation of urine, swelling of the parotid gland, but death did not ensue.

Expressed juice of the leaves introduced into the stomach.

I gave one tea-spoonful of this juice to a small dog, which not affecting him in two hours, I gave him three more tea-spoonsful. Shortly after he refused meat, though apparently not in a state of suffering. An hour after he foamed much at the mouth, and seemed very sick. Three hours after he had several watery stools, and died without convulsions, or much apparent pain.

Dissection.

The head: arachnoid membrane slightly inflamed, with water at the basis of the cranium.

The lungs very much inflamed, and covered with livid spots.

The pericardium contained a greater quantity of water than common.

The auricles full of coagulated blood.

The two ventricles distended also with coagulated blood.

Liver: the whole exterior surface inflamed and livid, the interior natural. The gall-bladder distended with bile of a dark green colour.

The stomach distended and containing a good deal of mucus and a lumbric worm, but little inflamed; the intestines were not inflamed. This corresponds with the symptoms produced by the poison, for the animal had no vomiting nor bloody evacuations, and seemed not to suffer in the digestive organs. May it not be by the re-action on the nervous system in this case, that death has been accelerated, which the pneumonia and gastritis would not have produced in so short a space; this I have explained in the modus operandi of the assiflora quadrangulari root.

Forty grains of the leaves dried and pulverised had a violent effect on a large dog, but he recovered in two days.

I gave a drachm and a half of these leaves pulverised to another dog, still stronger than the preceding, which caused him to vomit, to urine a great deal, and salivate abundantly, but no alvine evacuation. In the space of six hours, however, all these symptoms disappeared. I firmly believe, that if, according to the method of Dr. Orfila, the œsophagus of these two dogs had been tied, they would have experienced other symptoms, and death would perhaps have ensued. But in that case, I should not have been able to observe the great difference there is between the action of these leaves employed fresh or dry; for in drying they lose their acridity, and the greatest part of the venenous principle which renders them still more mortal than the apple.

Of the resinous gum.

This gum is not very abundant, it is only found on the largest trees, in knots and old cracks. Large pieces of a grayish colour, opaque and full of cavities, often containing drops of limpid water are sometimes found. It is hard, brittle, light, and adhering very closely to the bark of the tree. It is inodorous, and when applied to the tongue tasteless, and leaves no sensation. Of its chemical properties, I shall speak in my Toxicology.

First Experiment.

I triturated forty-two grains of this gum in six spoonsful of water, and gave a spoonful to a large dog; the salivation it excited was so abundant that it was with much difficulty I could succeed, which at last I did in administering half of the dose. The salivation augmented considerably; his mouth, tongue and throat, however, were not inflamed, and the animal did not appear to suffer pain; three hours after his kidneys and bladder seemed much stimulated, and he voided urine frequently. He had no other evacuation, and ate as usual.

Second Experiment.

I gave to a smaller dog than the former, 15 grains of this resinous gum, the animal experienced the same symptoms as the preceding, and in the space of three quarters of an hour, urined seven or eight times.

Third Experiment.

Being convinced from these experiments and many others, that this gum possessed no deleterious properties, but seemed a very powerful diuretic, I ventured to take four grains myself. In a few minutes I found my mouth filled with water, but felt neither heat nor smarting. During the three hours that followed, I experienced considerable excitement in the bladder, and urined copiously. No other effect was produced.

Of the milky juice.

The smallest incision made in the bark of the mancinella tree, gives free passage to an abundance of this juice. It drops also from the petiole of leaves when separated from the branch; likewise from the fruit: the large roots contain much less than the trunk. Its colour when running from the tree is a beautiful white, and it is then also liquid in consistence, but soon after thickens, becomes gluish, and changes to a gray colour. Its odour is similar to that of fresh peach leaves, and even still more agreeable, but after twenty-four hours is entirely evaporated. It is, however, remarkable that the blossom has no smell.

We are told by Dutertre, that the Indians made use of the milky juice of the mancinella, to poison their arrows. "For this purpose," Father Labat also says, "they make an incision in the bark of the tree, and there place the ends of their arrows, which they imbibe with the liquor as it runs out. The arrows thus imbibed are dried, and when used, wound and poison at the same time. I could not easily believe that the arrows dipped in the mancinella milk alone, were capable of poisoning the wounds made by them. Some other substance must doubtless have been applied to these arrows to render them venenous. The milk of the mancinella is in my opinion poisonous, only when applied in a large quantity to the mucous membrane, and has not a great effect on the divided muscles, or on the skin when the epiderm is broken. For as I have already hinted, the venenous vapour of this tree is a principle different from all its other parts.

Experiment. Milky juice applied to the epiderm.

I applied to my arm a pretty large quantity of the mancinella milk, from which resulted neither sensation, nor inflammation, nor eruption.* I repeated this experiment upon myself several times, and once having neglected to wipe off the milk thus applied to my hand, though finding no inconvenience all that day, the next I felt a great itching in that part, and perceived a few small red pimples, which occasioned an extreme itching and prickling; they disappeared after a few days without suppuration.

Experiment. Milky juice applied under the epiderm.

Having shaved the hair from the thigh of a dog, I made a deep incision of two inches long; this wound I filled with the milk taken immediately from the mancinella tree. Thirty minutes after this application, the animal appeared to suffer horribly; in three hours time the wound seemed not much inflamed; he took his food with avidity. The following day the suppuration had taken place, and in eight days the granulation was formed, and in a few days cicatrized, without any application, it being left entirely to nature.

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* The milky juice contained in the bark of the hippomane mancinella upon touching the skin, immediately raises watery vesicles. (Bancroft's History of Guiana.) This is not true, and the author does not speak from experience.

From this experiment, which I repeated on cats and other animals, is it credible that the Nhandiroba (feuillea cordifolia) used by Mr. Drapier, contributed to destroy the venom found in an arrow with which he pierced two cats? "We," says he, "slightly pierced two cats with the point of an arrow poisoned with the juice of a mancinella. We applied to the wound of one of these animals a cataplasm made with the seeds of nhandiroba. The animal appeared to suffer only from the wound which soon cicatrized; the other cat was left to the action of the poison, and soon fell into convulsions, which ended in death."* Mr. Drapier may be assured, that the arrow was poisoned with some other substance, and not with the mancinella, for he does not mention where he obtained this arrow.

Experiment. Milky juice applied to the eye.

Conducting with me a stout dog to the sea-shore, I gathered some of the milk from the mancinella, and dropped a teaspoonful in his eye. The pain was sudden and violent; the eye became red and watery; the animal howled and rubbed himself on the grass and branches of trees, as if unable to bear his pain. The eye swelled, and I found it impossible to open the eyelid, in order to examine the cornea. The next day the swelling still continued, and wishing to leave nature to its own action, I made no application. Towards evening, I could discern a part of the cornea, which was red, but in which neither iris nor prunello was discernible. On the fourth day after the application the eye began to clear, and a few days more were sufficient to heal it perfectly. What a great cure would the nhandiroba have made, if applied in cataplasm to this eye! Nature, however, acted alone on this occasion. How many maladies are retarded in their cure by useless or contrary remedies, to which, however, surprising virtues are attributed!

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* Journal Universal des Sciences Medicales. Paris, Fevrier, 1820.

Experiment. Milky juice applied to the tongue.

Being on the sea-shore for my experiments on the mancinella, I applied to the tongue of my negro boy Jacob, three drops of the milky juice. Five minutes after, he pretended to feel a burning like pepper in his mouth; nothing, however, appeared on his tongue, and after some time he ceased complaining. Not being satisfied with this experiment, for knowing the boy's propensity to lying, I put no confidence in what he said, and to satisfy myself of the truth, I the next morning applied the same quantity of this milk to my own tongue; a few moments after, I felt a very slight pricking, and adding three more drops to the same place, the pricking extended itself to my throat; however, in a few hours I felt nothing more; doubtless, because the quantity of milk was very small, for recollecting the consequences of the apple I chewed, I had no inclination to pursue the experiment further. The chemical analysis of the juice of the manchineel apple, gives a substance, which when applied to the mucous membrane, acts with more energy than the milk, or any of its component parts; but all this chemical labour will be minutely presented in my future work.

Milky juice introduced into the stomach.

First experiment. Ten grains of this milk given to a small dog, produced the most violent symptoms, of which I suppress the details. He, however, recovered in a few days without any remedy. This experiment supports the assertion of the celebrated Dr. Broussais, who says, "a phlegmasia will disappear spontaneously at the end of a certain time, independent of any topical means."

Second experiment. I gave to a small dog a tea-spoonful of the mancinella milk recently extracted from the tree. The symptoms produced by this dose were of the extremest violence; bloody evacuations, and excessive weakness continued during the whole course of this gastro enteritis, and the animal showed every symptom generally observed in those fevers called icterodes, putrid. or malignant.

Dissection.

The arachnoid membrane much inflamed.

Lungs: the right lobes natural; the left inflamed in its posterior and inferior parts.

The heart: the right auricle much distended, and full of black clots of blood; the left empty. The right ventricle full of black and clotted blood; the left empty. (I will here remark, that the great number of experiments made by me, have always presented this appearance of the heart in those cases of poisoning, in which death has been produced by a phlegmasia of some little standing; on the contrary, when death has come on rapidly, in consequence of the action of the nervous system on the circulation, both the auricles and the ventricles have always been distended with blood.)

The liver natural; the gall-bladder full of yellow bile.

The stomach much contracted, containing bloody water, and a substance like coffee grounds.

The mucous membrane inflamed, and loosening easily.

The intestines distended with air, and filled with bloody water, considerably inflamed throughout. Kidneys natural. Bladder empty and contracted.

Very small doses of this milk repeated several times in a day, do not kill a fowl; but a tea-spoonful given at once is sufficient for this effect.

Experiment.

I kept in a glass vase a fish called by the negroes Jamais mourir, (Logocephalus. L'abbé Bonnaterre.) and which I had nourished several days. I took it an instant from the water, and introduced into its stomach a pill made of two grains of the mancinella milk. It swam about at first with its accustomed vivacity, but in a very few minutes appeared convulsed, and rejected the milk which was coagulated, and seemed like small filaments on the water. It then turned on its side, fell to the bottom of the vase, and appeared dead or dying. Upon changing it, however, to another vase of fresh water, it regained its movements in a small degree, but was still much convulsed. Several black spots were seen on its skin, which appeared and disappeared successively, and varying in their shapes and intensity of colour. This fact struck me as very curious, and worthy the attention of the philosophic observer. The fish died shortly after this phenomenon.

It is seen from this experiment, that the milky juice of the mancinella is as active a poison for fish, as for other animals: how then can it be supposed that the venenous qualities of the Scomber carangus, Muræna conger, Syphyræna becuna, and many others, are to be attributed to the feeding of these fish on the mancinella apple? In the Toxicology which I have already announced, I shall treat largely of the deleterious qualities of fish, drawn from the observations and experience of seven years residence in those climates.

Treatment of the mancinella poison.

The great antidote to this poison has, until the present time, been supposed to be sea-water; and the echoes which repeat what has been so many times said, still trumpet forth its good effects.

Mr. Descourtilz,* in his medical flora of the Antilles says, "The curcuma tuberose root, (alloia radicibus stoloniferis. Tussar.) is still much vaunted for its good properties in combating the deleterious influences of the mancinella; but this learned author very properly adds that: "The incipidity of this juice forbids attributing to it any neutralizing quality, which is more certainly found in sea-water, the efficacy of which, in this case, cannot be contested." This assertion I contradict, and I have experience on my side. All the animals treated by me with sea-water, have died more promptly than those left to nature; it considerably augments the inflation of the abdomen, and frequently prevents the vomiting, which takes place immediately after having swallowed the poison, and thus detains the offensive matter in the already inflamed stomach.

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* Flore medicale des Antilles. Tome premier. 7e. livraison.

"Sea-water," Dr. Chisholm* also says, "I have repeatedly seen remove the dangerous effects of this poison, and the Bignonia lucoxylon (the white cedar of the country) is said to be also a certain antidote." But the Doctor does not affirm that he has tried the effect of these antidotes on other animals.

It has been seen by the dissections I have made, that the disease produced by this poison, is a gastro-enteritis. I ask, whether sea-water is an antiphlogistic remedy, capable of combating this inflammation, or any other inflammation, and if it does not rather augment it, as being a stimulus applied to a membrane already much irritated? If Mr. Descourtilz or Dr. Chisholm had made a single experiment, they would have been convinced of the truth. If there exists any remedy which may bear the title of antidote to the baneful effects of the mancinella, it is the nhandiroba.

Experiment.

I pounded in a mortar three of the nhandiroba seeds, and poured upon it a pound of cold water, and strained this through a piece of canvas. Having made this preparation, I gave to a large sized dog, a large tea-spoonful of the milky juice of the mancinella, and at the same time a table-spoonful of the nhandiroba thus prepared; a few minutes after he vomited a part of the milk. From half past 10 o'clock, which was the time I began the experiment, till half past eleven, he took a table-spoonful of the nhandiroba every five minutes, and vomited after every dose. After this he vomited no more. He voided blood and mucus, his abdomen was less swelled, and less agitated than in those experiments in which no nhandiroba was exhibited; the animal also appeared to suffer less than in those cases. From one o'clock until six, he has alternately had five doses of nhandiroba, and four injections of the same: during which time, he had but one bloody evacua tion; he became less agitated and breathed with freedom. After ceasing the administration of the remedy, he lay down in a basket apparently much fatigued, and refused all nourishment. During the night he voided a considerable quantity of black blood; the next morning he jumped from his basket with tolerable agility, and had another dose of nhandiroba. Some milk, and a little food were taken with appetite; he coughed somewhat, and his respiration appeared difficult. The left parotid gland was much swelled. This gland I have always found enlarged in animals poisoned by the mancinella. The third day his left thigh was paralyzed, and the day after that. the member was entirely covered with an eruption of large pustules, and a large ulcer formed, which healed in a short time, when the leg regained its motion. This dog was cured perfectly, and even grew fat in a little time, and it is reasonable to suppose that without the nhandiroba, he would have died. I have with the same success repeated this experiment several times. The nhandiroba has always been salutary, when the dose of mancinella has not been too large, or the animal very young; in these cases the nhandiroba has been found ineffectual. Two cases also, in which I gave the nhandiroba in substance, that is, without straining it, did not succeed.

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* Chisholm's Essay on the malignant pestilential fever of the West India Islands. London. 1795. page 26.

Desiring to ascertain whether it was not a property common to almonds, to act against this poison as a cooling or antiphlogistic drink, I made an emulsion with sweet almonds, and choosing a dog of size and strength similar to the former, I gave him the same quantity of mancinella milk, and treated him with the emulsion in the same manner as the other had been treated with the nhandiroba. The animal enduring the most violent suffering, died in the space of four hours. I dissected him and found the lungs filled with black blood; the stomach inflamed as well as the intestines, and became covered with black spots. In fine, all the appearances indicated a most violent gastro-intestinal phlegmasia. "At Cayenne," says

Mr. Aublet,* "some imprudent persons used the milk which runs from incisions made in the trunk of the mancinella to destroy worms in children, a pernicious custom," adds he, which often endangered their lives." Instead of saying often endangered, Mr. Aublet should have said, *always*. For I much doubt that he has ever seen it administered, without seeing it prove fatal to the patient. But it may be presumed, that Mr. Aublet has been told so, and he believed it.

In my experiments on this milk, I have not found it possessed of any active anthelmintic properties, although the animals used in these experiments were often filled with worms, which in their dissection I have always found living in the intestines. The alcoholic extract, however, seemed to act especially against the tonic.

However, since the nhandiroba may be an antidote to this poison, the physician should not rely entirely on its virtues, but have an eye to the violent gastro-enteritis produced by the mancinella, and every means which his art furnishes. Such is my opinion on the treatment of this poison.

The negroes do not so frequently use the mancinella in their poisons, as the creoles imagine. The root so much dreaded, is, as has been seen, one of the least active parts of the tree, and the milk would doubtless be very difficult to administer without detection. I am much inclined to think this poison is not oftenest used by them. There being in those climates many other plants more at hand, and much more active in their effects than the mancinella.

Is it not a matter of high importance to the inhabitants of the West Indies, to be fully acquainted with the nature of those plants so often employed by the wretched slave to the injury of the master, and to the destruction of the innocent and unsuspicious? Is it not an advantage gained over any enemy, to be able to handle his own weapons, and thus frequently disarm him before the mortal blow is struck? To these questions, let the philanthropic friend of science answer.

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* Histoire des plantes de la Guiane Française, par F. Aublet, Tom. II. p. 885.

Art. IV. A Memoir *on the utility of tying* Large Arteries, *in preventing Inflammation in wounds of the principal joints, and important surgical operations, illustrated by cases.*

By David L. Rogers, M. D. of New-York.

Ex principiis nascitur probabilitas; ex factis vero veritas.

The unfavourable termination of wounds in the large joints, and the little success attending the ordinary mode of treatment, has led surgeons in many cases to doubt the propriety of attempting to save the extremity: and in the majority of cases, amputation is subsequently resorted to in order to save the patient's life. A surgeon* of great eminence, whose opportunities have been sufficiently ample to lead to a correct conclusion upon this subject, entertains but slight hopes of preserving the limb, if we fail in uniting the wound by the first intention.

The synovia is allowed to escape, and inflammation ensues upon the internal surface of the joint. "If the patient be not very strong, it will be necessary to amputate the limb; but if his stamina be good, the patient may probably escape with anchylosis."

In offering this essay to the public, it is my intention to show, *first*, the inefficacy of the ordinary mode of treatment in wounds of the large joints; and, *secondly*, to invite the attention of surgeons to the propriety of cutting off the supply of blood to parts endangered by inflammation. This is a practice which has been frequently urged by Professor Mott from the surgical chair, and well illustrated by his recent operations on the lower jaw.

An ordinary case of simple incised wound in a joint, attracts but little attention from persons unacquainted with the serious nature of the accident. A cloth is bound about the part, and they attend to their usual occupation, unconscious of the terrible result. Many hours will frequently elapse before surgical advice is obtained. Inflammation commences in the joint, and the constant discharge of synovia, by lubricating the parts, renders union by the first intention very doubtful. A surgeon acquainted with the nature of the accident, would resort to the most active depletion both local and general. The disease gradually progresses, and after many months of confinement and pain, amputation is at last resorted to. This is the most frequent termination of wounds of the large joints. But they sometimes terminate differently. The end of the bones are denuded of their cartilages, a gelatinous substance is thrown out, which is gradually ossified, and firmly unites them, as in case of simple fracture. In confirmation of the above, I shall here add a few cases out of many that have come under my observation.

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* Sir A. Cooper's Lectures, page 108.

CASE I.

A. Hannah, aged 24 years, of steady habits and a good constitution, was received into the New-York Hospital, Nov. 12, 1822, for a wound of the knee-joint from a small penknife. The incision was about two lines in length; simple dressings were applied to the wound, and he walked to the hospital twenty-four hours after the accident. The knee was much inflamed, and painful; the dressings soaked with synovia, which continued to discharge in great quantities. His habit being full, he was bled largely from the arm, and ordered a brisk cathartic. The wound was carefully brought together by adhesive straps; leeches and cooling washes applied to the knee; and every exertion made to arrest the inflammation. But notwithstanding the active measures that were adopted, and continued from time to time as circumstances required, the disease continued to progress. The wound remained open. The termination of the disease in anchylosis failed; matter in large quantities was formed in the joint, burrowing itself both above and below the knee, from the spinous process of the ilium to the ankle joint; and after five months of great suffering, it was found necessary to amputate the limb.

CASE II.

Master C. aged 12 years, was thrown from a horse, and fell upon a pavement: the left arm was extended to break the fall.

which brought the weight of the body entirely upon the elbow joint, which gave way; the condyles of the os humeri were driven forward through the integuments, and lay perfectly naked on the fore-arm. He was immediately brought to my office for advice. The soft parts were badly lacerated, the bone denuded of its covering, lay four inches from its natural situation. The tendon of the biceps, and the brachial artery were pushed to one side, and lay posterior to the bone. After considerable difficulty, the bone was replaced in its proper situation, and the wound brought together by adhesive straps. From the great extent and dangerous nature of the wound, I was anxious that something more should be done, in order, if possible, to preserve the limb; and I accordingly recommended to his friends that the brachial artery should be secured by ligature. The necessary preparations were immediately made for performing the operation; but the anxiety of his friends had induced them in the meantime to request the attendance of their family physician, who unfortunately differed with me as to the necessity of the operation. The arm was accordingly dressed, and the boy sent home. Further advice was requested, and twenty-four hours after the accident two eminent surgeons were called in, who proposed immediate amputation; but the supervention of tetanic symptoms rendered the operation inadmissible. He was ordered large quantities of opium to lessen irritation, and emollient applications to the arm. These symptoms were relieved in a few days by a profuse suppuration from the wound, and after many weeks confinement he recovered with an anchylosed joint.

I would remark upon this case, that as the favourable termination of this wound could not have been anticipated, it would have been consonant with the best rules of surgery to have amputated the arm,* and no surgeon would have been censured for so doing; and in the second place, the proposed operation of securing the brachial artery was offered as the only chance of saving the arm, by cutting off the current of blood leading to the wound, it would have prevented a high degree of inflammation, and consequently lessened the subsequent irritation, at the same time allowing the soft parts an opportunity of uniting by adhesive inflammation. I am well persuaded, from subsequent experience, that it would in all probability have preserved the use of the joint.

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* Vide Hennen's Observations, page 159 and 274.

The cartilages and ligaments in their healthy state, are said to be insensible, or at least their complaints are not conveyed to the sensorium; and consequently we are not aware of the contusions which they must daily receive in our ordinary occupations of life. But when diseased, or excited into action by local causes, they become exquisitely sensible. Possessing but slight powers of life, they resist disease badly, and are easily destroyed by inflammation, thus laying the foundation for the most obstinate and fatal maladies. In disease, as in health, they appear to be placed beyond the control of the system; and surgeons,[*] from the earliest days, have been conscious of the dificulty of controlling inflammation in the large joints by the usual treatment, and they generally resorted to immediate amputation. A surgeon,[†] a few years since, in a case of a wounded knee joint, to arrest hemorrhage and more effectually to check the progress of inflammation, secured the femoral artery in a ligature. The successful termination of this case established the principles as far as one operation can go to establish an important rule in practice.

I shall here cite a case of a similar nature, which lately came under my care, and to me has been truly interesting in its nature and termination.

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[*] Wiseman, in his Chirurgical Treatise on wounds of the joints, book vi. page 87, observes, "The greater wounds are attended with much more vehement pain, inflammation, *delirium*, convulsions, gangrene, and are commonly deadly." The Art of Surgery, by Daniel Turner, M. D. Sec. V. page 500, in treating of wounds of the joints, says, "Passing by the stiff and useless limbs, loss of the same sometimes occurs, and frequently of life also."—See John Bell's Surgery, Part III.

[†] American Medical and Philosophical Register. Vol. IV. page 176.

CASE III.

I was requested on the 4th of August, 1824, to visit Mr. M'Cay, aged 30 years, a wheelright, who had the day previously wounded his knee with a gouge. I found him lying on a mattress, drinking spirits, and enjoying the company of his friends. He was a man of full habit, with a constitution much injured by high living, and consequently a bad subject for a serious injury. So slight did he consider the wound, that he had neglected to ask advice, and had drawn it together by three sutures. The wound was situated on the side of the joint, about one inch in length, and allowing a free discharge of synovial fluid. The knee was much swelled, and painful, the inflammation extending above and below the joint to a considerable distance, with furred tongue, a full and hard pulse, and a loss of appetite, with great thirst. The stitches, which included the divided portions of the capsular ligament on each side, and added greatly to the original cause of irritation, were immediately removed. I apprised him of his dangerous situation, and solicited further advice. Dr. Mott was accordingly requested to visit him, and after maturely considering the circumstances of the case, and the slight chance that could be offered him of saving the leg by the usual mode of depletion, it was determined to cut off the supply of blood, by securing the femoral artery in a ligature. He was accordingly laid upon a table, and with the assistance of Dr. Mott, I passed two ligatures around the artery at the upper part of the middle third of the thigh, and the leg was dressed in the usual way. The edges of the wound on the knee were brought together, and retained by adhesive straps. The patient ordered to bed, with a strict injunction not to move the leg.

2d day. On visiting him this morning, I found all the dressings removed; he had passed a very restless night. His countenance flushed, and the pulse full and hard. The swelling of the knee has much subsided, and the pain by far less than it was prior to the operation. The wound was again dressed, a saline cathartic was ordered, and the strictest abstinence enjoined.

3rd day. The cathartic had operated well, he rested much better during the night, and had no pain since the preceding day; from this time no symptoms of importance occurred during his recovery.

In a few days the pain and tumefaction entirely subsided, without any further discharge of synovia. On the tenth day after the operation, the dressings were removed from the knee. The wound had nearly closed, and granulations had sprung up from the bottom; the edges were again brought in contact by plasters, and left until the fifteenth day, when upon removing them, I was much gratified at finding the wound completely closed; on this day the ligatures came from the femoral artery, and the wound was nearly healed; on the twenty-fifth day he walked out without experiencing any inconvenience from the injury, except a weakness of the limb.*

How far the practice of tying the femoral artery in compound fractures, and dislocations of the ankle joint would be advisable in preference to immediate amputation, I have not had sufficient opportunity of judging. But as a powerful agent in lessening inflammation in these cases, I am thus far well convinced of its utility, and should strongly recommend its adoption in those cases where an effort should be made to save the limb. From the frequency of tetanic symptoms in these injuries, I am doubtful as to the propriety of hazarding the patient's life to save the leg. Unless the accident should occur to a young subject, with an unimpaired constitution, and enjoying the benefits of a good country air: the attempt ought, then, assuredly to be made. This distinction in the result of wounds in the country and city, ought strictly to be observed, as it is a well-known fact among surgeons of experience, that compound fractures and dislocations of the ankle joint do well in the country, whereas in the city, they, as a general rule, prove fatal.* Therefore, under other circumstances than those alluded to, it would be criminal to allow our humanity to govern us so far, as to endanger the life of the patient by an unnecessary delay in amputating the extremity. "However desirable it may be to save a hand or foot, yet in severe laceration, the frequency of tetanic affections should at once lead us to adopt immediate amputation."†

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* Case third is the strongest proof that I am acquainted with in support of the utility of cutting off the circulation to large joints when seriously injured, and the favourable termination of this case may be attributed entirely to the interruption offered to the current of blood to the part; as it was unassisted by the Valsalvian depletion, as recommended by Larrey, Guthrie, and Hennen.

When an attempt is made to save the limb by cutting off the circulation, it will lessen inflammation, and aid the healing process. It will, however, have no influence upon the nervous irritation, or the accession of tetanic symptoms, which do not appear to be governed by the increase or diminution of the arterial excitement. When the inflammatory action has subsided, and the wound is kindly healing, in short, when we consider our patient free from danger; our best hopes are frequently destroyed by the accession of tetanic symptoms, which in a short time end his existence.‡ The following case was one of this kind, for the particulars of which I am indebted to Dr. F. G. King, house-surgeon of the New-York Hospital.

CASE IV.

"Vosburg, aged 34, labourer, habit full, free drinker, whilst engaged in removing earth from the hills at the Hook, a part of the bank caved in and struck him on the left leg just above the ankle, by which blow the ankle was compoundly dislocated upon the innerside, the bone projecting through the integuments fully half an inch. This was about 2 P. M. of Friday September 2d, 1824, and at 3 P. M. he was brought to the Hospital. The wound was there washed, the sand which had entered the joint cleansed out as well as possible, the bone reduced, wound dressed, and patient bled. On Saturday afternoon the ankle was extremely painful, swelling and inflammation increasing, leeches and cooling lotions notwithstanding. Dr. Mott resolved to tie the femoral artery, for the purpose of lessening the determination to the part, and reducing inflammation. This operation was accordingly performed, after which the wound of the ankle was drawn together by adhesive straps, and so dressed with lint. On Sunday, after having passed a quiet night, the swelling was found not to have increased, limb of natural temperature, which is less than the heat of yesterday, and pain diminished; wound not examined. Monday, slept well during the night, swelling diminished, heat natural, wound at the ankle offensive, and discharging a thin bloody fluid, poultice to soften dressings and cleanse the part—edges highly inflamed. On Wednesday the wound looked remarkably well, exhibiting healthy and numerous granulations, dres: ung: Res: flav. Thursday, granulations increasing, the wound filling up well and presenting a very healthy appearance; no pains, swelling, or tension in the part, patient expresses himself very comfortable; and thus it was doing uncommonly well until the seventh day from the accident, when trismus, &c. set in and he died."

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* The late Dr. R. Kissam of this city, who, as a practical surgeon, stood deservedly among the first in his profession, was heard frequently to express his decided disapprobation of any attempt to save the leg in compound fracture, and dislocation of the ankle joint.

† Hennen's Observations, p. 170.

‡ Mr. Hennen in his observations, states, "I have never been fortunate enough to cure a case of the acute symptomatic tetanus." p. 162.

Although the above case proved fatal, yet we may draw some practical conclusions of importance to our present subject. First, it affords a strong proof in favour of the utility of cutting off the circulation in extensive injuries, and it must be considered as a noble effort of surgery to lessen human misery, and to save the unhappy subject of those accidents from decrepitude. And secondly, it gives us a fair specimen of the fatality attending compound fractures, and dislocations of the ankle joint. Notwithstanding every effort was made which the science is capable of exerting, and the plan pursued was justified upon every principle of surgery, and the case for a time appeared to sanction its adoption; yet we are led from the result of the case to admit, that immediate amputation would have been preferable, in as much as it would in all probability have preserved life.

In the treatment of wounds and surgical operations, inflammation in its progress is a subject of serious consideration to the practical surgeon, as it frequently baffles his best-directed efforts to arrest its unfavourable terminations; and therefore every practical fact tending to elucidate its nature or treatment, should be impartially considered. It is upon these grounds, that I solicit the attention of surgeons to the propriety of cutting off the circulation to parts endangered by inflammation: not only as it is applicable to wounds of joints, but wishing to extend it to all serious injuries in other parts of the body, and to operations of great magnitude, when it is important to produce an immediate union. I feel the more confidence in urging this practice, as it is firmly believed that it would in the majority of cases supersede the necessity of amputation.*

To excessive inflammation is attributed all the mischief that follows extensive injuries, and the most active means of depletion are carried into operation to lessen irritation and subdue action. We therefore resort to local and general blood-letting, counter irritants, &c. to take off the determination of blood to a particular part, and to reduce its volume. If by these means we are successful, the part recovers its tone, and is soon restored to healthy action. But in case of failure, the vessels of the inflamed part enlarge, become turgid, producing tumefaction and pain; the vessels from the loss of power are unable to discharge their contents, and the blood collects beyond their limits of distension. They give way, and the disease terminates in mortification.

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* Vide Trowbridge's case in Surgery.

It is upon the same principle of lessening inflammation, which has hitherto been pursued, that the present operation is urged; but with this difference: in one case we take off the current of blood from the diseased part, by reducing the strength of the general system, and when suppuration comes on, the constitution is too much enfeebled to support a tedious discharge, and necessity obliges us to remove the extremity. But in the proposed plan, the same indications are answered without seriously affecting the general health. The depletion is entirely local, and confined to the diseased extremity. The injured part has an opportunity of recovering its healthy action before the circulation can be sufficiently restored to do any injury, and in case of failure in uniting the wound by the first intention, all the strength of the constitution will remain to support the subsequent suppuration. It might be objected to by some, lest immediate mortification should follow the operation. Experience however has taught me to believe the collateral circulation will in most cases be sufficient to support the vitality of the extremity. I shall here offer two cases from my note-book in support of this opinion.

CASE V.

A lad, aged 16 years, was brought to the Hospital July 4th 1821, with an extensive laceration of the arm, which he received from the discharge of a gun, while imprudently resting his arm upon the muzzle. The discharge entered the arm about the elbow joint, tearing off the integuments for six inches in length and three in breadth. The nerves, veins, and arteries, lay like cords on the surface of the wound. The muscles lacerated in such a manner as to destroy the appearance of their original structure. The bone laid bare. and in some places denuded of its periosteum; he lay for some hours weak and exhausted; his pulse was small and quick. The extent of the wound led the attending surgeon to believe that the brachial artery, or some of its large branches, were divided, and hemorrhage was expected from the wound, as the system recovered from the immediate shock of the accident. To lessen inflammation and prevent hemorrhage, the brachial artery was secured by ligatures as it passes out from the axilla, little hope was entertained of saving the arm, but to the astonishment of all who saw the case, there was merely sufficient inflammation in the wound to produce healthy suppuration and granulations. He suffered but little pain during his recovery; and I may venture to assert, that there was not more inconvenience experienced from this lacerated wound, than there would have been from a simple incised wound of the same extent, where the circulation had not been interrupted. He recovered rapidly, and in the course of a few weeks left the Hospital in good health.

CASE VI.

John Mylander, aged 30 years, came into the Hospital, Nov. 29, 1823, for an inflammation of his arm. He stated, that four days previous he felt a slight indisposition, and applied to a doctor for advice, who bled him. That the blood flowed very fast, and there was considerable difficulty in stopping it. On his return home, it began to swell, and was very painful. The incision made by the lancet had healed. The arm was swelled to such a degree that it appeared on the point of bursting; and so very sensible, that he complained bitterly of the pressure from the necessary dressings. He was bled largely, ordered an anodyne, and emollient applications to the arm. On visiting him the next morning, and examining the arm more particularly, I found a distinct fluctuation of matter at the upper part, and on the outside of the tendon of the biceps muscle. I accordingly passed a lancet into the abscess, and discharged at least six ounces of matter. A poultice was ordered, and I left him to visit the other wards. After having passed two wards, the nurse came after me in great haste, stating that the man was dying from the loss of blood. I hastened to the ward, and found him lying on the floor, faint, and covered with blood, which was flying from the arm half-way across the room. I instantly plunged my finger into the wound, and after pushing it to its full length through the sac which had lately contained matter, I was able to find the artery, and, by pressing with great force, to command the circulation. The attending surgeon immediately saw him, who made an incision down to the artery, and found a wound passing completely through it, about the eighth of an inch in length. After clearing away the clotted blood, which was extensively diffused through the cellular substance, it was secured by ligature. The hemorrhage returned again in two days, when it was found necessary to secure the artery higher up. After this second operation, which completely cut off the blood from the arm through the principal trunk, the man expressed great satisfaction at the almost immediate relief which it gave him. In this case, we might have expected mortification to have followed the interruption offered to the circulation through the principal trunk, as the cellular substance was crowded with coagulated blood for some distance above the elbow to the ends of the fingers; and so great was the tumefaction, that it must have interrupted in a great measure its circulation through the collateral branches. But notwithstanding all the difficulties attending this case, the tumefaction and pain of the arm rapidly diminished; the wound healed kindly, and in four weeks he was discharged cured.

The two last cases made a strong impression on my mind at the time of their occurrence, in consequence of the observation of the attending surgeon, Dr. Mott; and I would here acknowledge my obligations to that gentleman for my first idea upon this subject, with the practical lessons that he has so frequently given me of its importance.*

In further confirmation of the practice which I have endeavoured to support,† I would refer to those late operations of Dr. Mott on the lower jaw, and ask to what circumstance the

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[*] In six cases in which Dr. Mott secured the carotid artery, for different affections of the head and neck, I uniformly observed the same result, in its lessening inflammation.

[†] Vide the 2d, 3d, and 4th numbers of the New-York Medical and Physical Journal.

success of those cases are to be attributed, but the previous interruption of the circulation by tying the carotid artery?

In closing this paper, I do it, confidently believing that the practice to which I have essayed to invite professional attention will, ere long, in abler hands, become an established and important rule of surgery in the treatment of inflammation.

ART. V. *Case of* DELIRIUM TREMENS, *with remarks.* By STEPHEN BROWN, M. D., of New-York.

A. C. a butcher, aged 29 years, of a sanguine temperament, was taken with chills followed by fever, about 12 o'clock at night of the 5th of August, 1824. Being called to see him at 10 o'clock A. M. of the 6th, found he had a full and strong pulse of 108 in a minute; complains of pain in the head, back, and limbs; has pain and tenderness at the stomach, with nausea. The pupil of the eye somewhat dilated, with a wild expression of the countenance; has some degree of tremor of the hands.

I bled him 16 ounces, ordered a cathartic of jalap and calomel to be given two hours after the bleeding, with a solution of tartarized antimony at intervals. Eight o'clock P. M. of the same day observed the blood drawn in the morning covered with a thick buffy coat, and cupped edges. The cathartic had moved the bowels freely. Had less pain than in the morning; pulse not so full and strong; skin moist.

Ordered a continuance of the antimonial solution with diluting drinks, and mustard cataplasms to the feet.

2d day of his illness, 10 o'clock A. M.—Learned he had slept none last night; skin quite moist—tongue furred and moist. Ordered a cathartic of rhubarb and calomel, with a continuance of the antim. solution. Eight o'clock P. M. of the same day complains of pain in the head—pulse full and strong, and more frequent than in the morning—has tenderness and sickness at stomach, with some heat of skin. Was bled sixteen ounces.

3rd day of his illness, 10 o'clock A. M.—Was informed he had slept none last night. Wild expression of the countenance continues, with dilated pupil, and trembling of the hands—has no pain whatever. Ordered a portion of calomel and rhubarb; continues the antimonial solution. Eight o'clock P. M. of the same day—has pain in the head—pulse fuller and more frequent, with sickness at stomach. Upon a more particular inquiry into the habits of this man, learned he had indulged in a free use of ardent spirits for a considerable time, and had been once before slightly affected in a similar manner.

4th day of his illness, 10 o'clock A. M.—On visiting him this morning, found he was labouring under confirmed "*Delirium Tremens.*" His wife informed me he had been delirious during the whole night. Although this was the first decided appearance of delirium, yet wakefulness, trembling, and a wildness of the countenance had continued from the first attack—had not slept during the last three nights. The hallucination of his mind consisted in his seeing little animals, which he called *horned mice*, about his bed, of which he appeared very fearful, examining with quick motion, and trembling hands every article of his bedding, blankets, sheets, &c. and throwing them out of the room. Finding the bed itself equally infested, and being as he thought several times bitten by them, he abandoned the room, and could not be prevailed upon to return to it during the day. In the other apartment his mind ran on other subjects—was transacting business with absent friends; mistook familiar objects in the room for surloins of beef, and other articles of the butcher's stall. He was incessantly in motion, with trembling limbs. The adnata of the eye had become at this time quite yellow. Ordered a cathartic of rhubarb, aloes, and calomel. At 4 o'clock P. M. gave him two common-sized tea-spoonsful of laudanum, with directions that a tea-spoonful should be given him at each succeeding interval of two hours, until he should fall asleep. At 9 o'clock in the evening visited him. Four drachms of laudanum had been taken, but no disposition to sleep, or even to lie down. I now gave him a tea-spoonful more, one also at 10 o'clock, and another at 11, during which time remaining by him, lest it should not be carried to the point of producing sleep. He now for a short time became more tranquil, and hopes were entertained that he would soon fall asleep. But not long after he became sick at the stomach, and vomited freely. He then became as wakeful and outrageous as ever. All efforts to induce him to take more laudanum were unavailing. His delirium had been so violent during the last six hours, that he thought himself not in his own house. The prevailing anxiety of his mind was to get home, so that now it was only by force that he could be kept in the house, a state of mind which in the delirium of fevers, is invariably looked upon by the experienced practitioner, as holding out a very unfavourable prognosis. I have never observed it in this disease, except in one instance before, and that proved fatal. He had been during the afternoon and evening covered with a profuse perspiration, with violent and general tremor. Being unable to make him take more of the laudanum, and possessing no means of having it administered by enema, I resolved to try the effects of free vomiting, agreeable to Dr. Klapp's method of treating this disease. Accordingly, having ordered five grains of tartarized antimony, with twenty grains of ipecacuanha in powder concealed in preserves, (as he was suspicious of all fluids presented to him) and also having given directions to follow up the operation of the emetic with laudanum, if practicable, I left him for the night, regretting very much that the treatment which I conceived the most applicable in this case, could not be carried to its full extent.

4th day of his illness, 6 o'clock in the morning.—Found him no better; the emetic given at 12 o'clock last night produced free evacuations from the stomach, but he resisted every effort to administer the laudanum. It now appeared that he could not live another twenty-four hours unless sleep could be procured, and that consequently no time was to be lost in endeavouring to effect this object. Finding no difficulty in making him take powders in syrup, I went home, selected the best opium, weighed and pulverised thirty-six grains with an equal quantity of soda. sup. carb. and divided them into five powders, one of which contained twelve grains of the opium, the others six grains each—with directions that the twelve grains powder be given him immediately, and one of the six grains powder at an interval of each succeeding hour, until he should fall asleep.—Visited him at 10 o'clock, when his wife informed me that she had given him the large powder (containing twelve grains) at 7 o'clock, one of the six grains powder at 8, and another at 9 o'clock; that during the interval of taking the first and second powders, he rejected some fluid from the stomach, but had not vomited since. He now appeared more outrageous than ever, pulse rapid, the whole surface of the body covered with a profuse sweat, feet and legs cold, and violent tremor over the whole system, especially after slight exercise. I now gave him the two remaining powders at one dose—procured some more opium, and at 11 o'clock gave him four grains more, when I left him, with directions to have another powder given him at 12 o'clock, unless he should sooner fall asleep. Returned at half past 1, when I found him recumbent in sleep, or rather a comatose state, breathing with a short inspiration and stertor, and with long expiration; surrounded by his friends weeping. I was informed that he fell asleep about 12 o'clock, when, from the cold, clammy sweat which pervaded the whole body, particularly the coldness of the extremities, and the singularity of his breathing, they had for some time thought him dying. But faint hope had now taken the place of despair, from the fact that a general warmth had diffused itself throughout the whole system. I now felt his extremities, and found them warmer than they had been during the last twenty-four hours—his pulse reduced from 140 to 115 in a minute—the pupil of his eyes were at this time preternaturally contracted. The whole quantity of opium administered was forty grains, from 7 to 11 o'clock, a term of four hours. He had frequent twitching of the hands and feet during this comatose state. His inspirations were short and stertorous, as before stated. His expirations twice or thrice as strong as the natural breathing. Being aroused from his sleep, a mixture of vinegar and water was given him, of which he drank freely, and soon fell asleep again. After directing the further continuance of vinegar and water occasionally, and another four-grain powder of opium, in case he should become wakeful, I left him.

Visited him at 10 in the evening, and found him asleep: his breathing was more free and natural, but the frequent twitching of the muscles of his hands and legs continued, though somewhat abated—had several times awoke during the afternoon, when vinegar and water were given him, and at 4 o'clock a four-grain powder, as the friends thought him more wakeful.

5th day of his illness, at 10 A. M.—Found him in a calm sleep—his limbs free from motion—skin sufficiently warm—pulse full and soft, at 80 in a minute—had taken a four-grain powder early this morning—had drank several times of vinegar and water during the night. Eight o'clock, P. M. of the same day.—Was told he had slept during the whole day, except occasional wakings—had taken also some porter, and arrowroot for nourishment.

6th day.—Pulse 76 and soft—has a clear, moist tongue—no appetite, and great debility. Ordered ol. ricini.

7th day.—Slept well last night—pulse 72 and soft. This morning he eat a light breakfast.

After this he required no medicine, but recovered fast, and soon enjoyed his former state of health.

REMARKS.

With regard to this case, we may remark, that it affords a strong argument against the doctrine of cerebral congestion or inflammation being the proximate cause of this disease: for although we have seen a very considerable number of cases of this disorder, and the delirium in this as violent and outrageous as almost any former instance that has come under our observation, yet it immediately succeeded (if not in part consequent to) the very free depletion as mentioned in the detail of the case, viz. three bleedings to the amount of forty-six ounces within three days; with the additional depletory means of three active cathartics, and the continued action of antimony in diaphoretic doses, together with antiphlogistic regimen. And from the free evacuation of the stomach and bowels previous to the occurrence of delirium, together with the failure of free vomiting to abate its violence and procure sleep, while it argues against the theory of the gastric pathology of Dr. Klapp, also affords an instance of a failure of relief from the emetic plan of treatment as recommended by that gentleman.

The yellowness of the eyes, in the advanced stage, showed some disturbance of the biliary functions. But if the cerebral affection was symptomatic of the hepatic, as is supposed by Dr. Potter to be frequently the case in the disorder in question, what is that condition of the liver, which, giving rise to the *delirium*, *trembling*, and *wakefulness*, is removed by twenty-four hours sleep produced by opium: since all known morbid affections of this organ are either *incurable*, or slow in their removal?

The pathology of this disease appears to be far from being well understood. We offer this case to the notice of the profession as another instance, in addition to those heretofore communicated, of the happy effects of large doses of opium in a violent and almost hopeless case of the disorder, at a stage, too, when, from what has come under our notice in other and fatal cases, we have a firm belief that this man would have soon died had not sleep been obtained. Vinegar was prescribed after the specific effects of the opium had taken place, with a view to counteract its narcotic operation; as the opium was administered more rapidly and in larger doses, in this than in any former case that has occurred to us in practice, the result of the treatment was fortunate indeed. How far the vegetable acid tended to operate favourably, we leave to individual opinion; at the same time beg leave to suggest, whether, in *extreme cases*, opium might not with propriety be given more boldly, with the anticipation of counteracting its narcotic effects with vegetable acids, when the patient shall have been brought under its soporific influence. Or whether a combination of opium with the vegetable acids—or of administering it in the form of "the black drops," might not, as a general rule, be a more safe and eligible practice than the use of opium alone.

ART. VI. OBSERVATIONS *on the* SULPHATE OF QUININE, *and its adulteration.* By ISSACHAR COZZENS, Manufacturing Chemist. Read before the Lyceum of Natural History of New-York, September 27th, 1824.

IT is well known that almost every article of frequent use or consumption is more or less adulterated. When such alterations are made in food, the evil is enormous, but is nevertheless hardly so heinous as the frauds employed in medicines.

It has been asserted that there is much of the caprice of fashion in the prescriptions of physicians, and that certain medicines are much in vogue for a short time, and then are totally relinquished. It will, however, often be found, that the most valuable articles of the materia medica, more particularly those of a costly nature, invariably invite adulteration, and being thus rendered inert and inefficacious, are abandoned by the physician. The red bark which was formerly considered the most powerful and active of all the kinds of bark, has in consequence of its extensive adulteration, been lately neglected, (as I am informed,) by most physicians. When, however, such a cheap article as the syrup of buckthorn is the subject of sophistication, we can readily believe that there are very few medicines but what may be altered or vitiated.

With a view of putting the community on their guard respecting a new and excellent remedy, I have hastily drawn up the following observations on the sulphate of quinine.

The experiments may be repeated by any one, and require the simplest apparatus.

Sulphate of quinine, when pure, is in grayish white needle-shaped crystals. These are usually broken in taking them out of the vessel in which they are manufactured, and repacking them in phials. When held against the sun, or a strong light, the glittering appearance produced by the faces and angles, exhibits their crystaline structure. If a small portion be put into lime-water, a copious flocculent precipitate ensues; this is, however, rather a test of the presence of quinine than of its purity.

Place a small quantity, (the half of a grain will be sufficient,) on a piece of unglazed porcelain, or a common tobacco pipe; if heat be applied to this, the pure quinine will first melt and spread a little; it then turns to black, and burns away leaving nothing but a dark stain, with the peculiar smell of bark. If any earthy matter is present, it will be left on the pipe.

Dissolve the same quantity in pure rain or distilled water in a silver spoon, and boil it over a few coals, or a small flame. If the quinine is adulterated with starch, flour, or any similar substance, a paste will be found; if the sulphate or carbonate of lime, or magnesia, or any earthy matter is present, it will not form a clear transparent solution with boiling water.

Some persons are in the habit of offering for sale what they term a tincture of quinine, which is nothing more or less than a solution of quinine in alkohol, or dilute sulphuric acid. I do not know the value of this preparation, but as it is clearly impossible to determine the actual quantity of quinine thus employed, it is recommended in all cases to make use only of the quinine in the form of the white crystaline powder.

The excellence of this medicine, its high price, and its probable extensive employment in practice, will, it is feared, lead to so much adulteration, that some easy mode of ascertaining its purity becomes highly important..

ART. VII. A CASE *of* POISONING *by* OPIUM *successfully treated by cold affusions.* By Dr. BARENT P. STAATS of Albany. With an additional Case, by JOHN B. BECK, M. D.

Having lately seen the application of cold water highly recommended in cases of poison from *opium*, I take the liberty of transmitting to you the following case which lately fell under my care.

On Saturday August 7th, a mulatto fellow of this city took three drachms of solid *opium* for the purpose of destroying himself; he was discovered three hours after lying in the woods, in a stupified state, perfectly insensible. A physician was immediately sent for, who attempted to puke him, but to no purpose; finding his efforts unavailing, at last abandoned him. I was then sent for, and when I arrived, found him as it were, in the arms of death. His breathing was stertorous and *oppressed*, with every other symptom of approaching *apoplexy*. I immediately opened the jugular vein, and drew away twenty ounces of blood. I then commenced pouring cold water on his head, which I continued for the space of fifteen minutes, when I was surprised to see him open his eyes, and appear sensible; but immediately on withholding the water, he fell asleep. I repeated the water as before, with the same effect; and by the constant application of the water at intervals of a few minutes, for the space of six hours, *finally* succeeded in rescuing him from a premature death.

Additional Case. By JOHN B. BECK, M. D.

In addition to the foregoing case, I am induced to record another of a similar character, in which the efficacy of this new method of treating persons under the effects of large doses of opium, was beautifully illustrated. On Friday the 15th of October, I was called late in the evening to an infant about two months old, to whom its mother had given through mistake, twelve drops of laudanum, instead of paregoric. Discovering her mistake shortly after, and being alarmed at the effects which it produced on the child, she sent for assistance to a neighbouring apothecary, who directed the administration of antimonial wine. A tea-spoonful of this was accordingly given, but without the least effect in exciting vomiting. Shortly after this, and about one hour after the laudanum had been given, I first saw the child, and found it in a state of stupor, from which it could not be roused by any ordinary means. With a view, if possible, of still exciting vomiting, I immediately poured down a large dose of tartar emetic and ipecacuanha. After waiting a few minutes, and finding no effect, I commenced pouring cold water from a pitcher on the child's head, which was held over a tub. In a very short time the child seemed to feel the impression of the water, and exhibited symptoms of returning sensibility. On stopping the application of the cold affusions, it speedily relapsed into its former state of stupor. The water was again poured on the head, which soon roused it again, and during its use it vomited very freely. I now suspended its use for ten or fifteen minutes. Finding the symptoms returning, recourse was again had to the water, and with the same effect. It roused the child, and again brought on vomiting. After this it gradually revived, and the next morning was as well as usual.

The credit of originality with regard to this practice has been very justly conceded to Mr. Wray, by whom it was announced to the public in 1822. It is due, however, to a professional gentleman of high respectability, Dr. Samuel W. Moore of this city, to state that so far back as 1815, the very same practice was used by him and with success.

REVIEW.

ART. I. A TREATISE *on the* DISEASES *of the* EYE; *including the doctrines and practice of the most eminent modern surgeons, and particularly those of Professor Beer.* By GEORGE FRICK, M. D. &c. Baltimore, 1823. pp. 320. 8vo.

UNDER a very unpretending form, Dr. Frick has here presented us with a valuable and useful compend on the diseases of the eye. The growing importance attached to this subject in this country, is sufficiently evinced by the recent establishments of numerous institutions devoted exclusively to the relief of this interesting class of affections; and it also indicates the necessity for such a treatise as the present. The author has enjoyed opportunities of no ordinary extent to improve and perfect himself in his subject. An attendance of several years at the hospitals of Great Britain, and more especially of the Continent; an intimate intercourse with Professor Beer, so well known for his celebrated work, "*Lehre von den Augenkrankheiten;*" and finally, his situation in the Baltimore Dispensary, for the cure of the diseases of the eye, have afforded him a scope for observation and study seldom enjoyed by our professional brethren in this country. In contributing the result of these numerous advantages to the stock of professional knowledge, Dr. Frick has rendered his countrymen an important service. And when it is considered that this is the first attempt made here to furnish physicians, and students more especially, with a manual on this much neglected but highly important branch of medical and chirurgical science, we trust that his claims will not be slightly regarded or overlooked. With these few preliminary observations, we proceed to an analysis of the work, accompanying it with such remarks as we may deem necessary.

Ophthalmitis.—This affects equally all the optic membranes; exhibiting, in addition to the usual characteristics of general inflammation in other textures, great sensibility to light, and an increased flow of tears. After the occurrence of pain, the sclerotica is seen to be slightly red, the eye is dry, hot, and moves with difficulty in its socket, owing to the distended state of its conjunctival covering. The pain is at first lancinating through the eye-ball and orbit, but becomes throbbing as suppuration approaches—the redness is diffused, and there is a solid deposit of lymph in the palpebral conjunctiva, producing the *chemosis* of the English ophthalmogists. Dr. F. in a foot note, draws an obvious distinction between the turgescence of the membrane and sugillatio—an extravasation of blood from external violence: the colour of the latter being of a deeper red, from the coagula it contains. As the inflammation progresses, the neighbouring glands, which were primarily stimulated to increased secretion, become dry, but towards the termination of the disease they pour forth an increased flood of matter; as the second stage approaches, an effusion of blood, or pus, frequently takes place in the chambers of the aqueous humours, and if to any extent, is accompanied with high sympathetic fever, and total destruction of the organ. In enumerating its various causes, our author particularises derangement of the digestive organs—atmospheric changes—the presence of foreign bodies—and the propagation of the inflammation from the brain itself through the medium of its tunics investing the optic nerves. The conjunctival coat of the eye being a similar and continuous membrane with that lining the intestinal canal, satisfactorily explains their existing sympathies.

No state of atmosphere predisposes more to opthalmia than the conjunction of heat with moisture: hence the worst kinds arise in warm climates, from exposure to the night air.

Treatment.—This is modified by the nature of the exciting cause, the removal of which is primarily indicated. Should a febrile disturbance of the constitution exist, general and local bloodletting is to be premised, followed by saline cathartics and antimonials. Great difference of opinion exists as to the mode of detracting blood by leeches. Ware prefers their application to the temple. Vetch to the lower lid. Our author adopts the practice of Beer and Scarpa in applying them over the fascial vein, as producing the most rapid abstraction of blood. It is, however, perfectly arbitrary, provided the desired effect is produced. Scarifications are not admissible during the acute stage; they should be made deep, and frequently, for which purpose the scalpel is the best instrument. Blisters are to be applied behind the ear, or to the nape of the neck, in preference to the temple; our author probably thinking, with Vetch, that they increase the action of the subjacent arterial trunks in the latter situation. Dr. Frick properly cautions against the use of stimulant collyria during the acute stage; he prefers tepid applications to cold, in which opinion he is supported by Professor Beer and Mr. Travers, on the ground that cold, being a tonic, causes a reaction with an increase of pain. In irritable habits of a particular nature, we believe the opinion to be well founded; but we have remarked the disease to yield with equal facility under both plans of treatment. As soon, however, as the capillaries are in a state of congestion, warm applications are to be suspended, and cold lotions, astringent collyria, or stimulating ointments, are to be employed. To conclude this chapter, the two most important indications are, in the first stage, to preserve the integrity of the cornea, the appearance of which should always regulate the extent of the antiphlogistic regimen. In the second, or subacute stage, to avoid the tendency to debility in the organ favourable to the suppurative process—in the former, we have much to expect from the free use of antimonials—in the latter, from the free exposure of the eye to the dry air.

Conjunctivitis Catarrhalis.—This is a species of glandular inflammation of the eyelids, that frequently prevails as an epidemic simultaneously with affections of other mucous surfaces, as catarrh or influenza, and is termed by Mr. Travers, a mild form of suppurative inflammation of the conjunctiva: a term, we think, preferable to catarrhal, which Dr. Frick has adopted from Beer. The first sensation the patient experiences, is an itching or burning in the borders of the eyelids, the secretions of which are entirely arrested—deep-coloured superficial vessels run in fasciculi towards the cornea. The inflammation, however, says our author, is readily distinguished from that of the sclerotica, by the rapid increase and subsidence of the vessels, which also accompany every motion of the palpebræ. He might also have added, that there is a much less sensibility to light. The sensation of grains of sand being lodged upon the eye, is accounted for by the enlargement of the conjunctival vessels; it is, however, also owing to the inflammation extending to the sclerotica. As the disease progresses, the cheeks are excoriated by the lachrymal secretions, which, not being blended with mucus, are excessively acrid. This, after a few days continuance, is succeeded by a puriform secretion from the lids, which inspissates in flakes on the cornea, and makes it appear to the patient as if he was looking through a prism; minute pustules also form along the edges of the eyelid, called tæniæ ciliares, also at the junction of the cornea and sclerotica, and sometimes on the cornea itself. These, says our author, are probably the inflamed mucous glands of the conjunctiva, and are similar to apthæ in other mucous membranes. Like all the varieties of conjunctival inflammation, it is frequently accompanied by disorder of the other mucous surfaces. Its principal cause may be referred to an epidemic state of atmosphere; the disease is, however, doubtless multiplied by contagion, as is evident by the extent of its progress in schools, armies, &c.

The treatment of this form differs but little from that of general ophthalmia. Frequent attention to diet, cathartics, use of cold water, with removal to pure air, are usually sufficient. Should, however, the disease progress, topical bleeding, and a suppurating surface are indicated. During the second stage, astringent lotions, as the alum solution, with general tonics, will generally annihilate the disease. Its peculiarities appear to consist in its not requiring general depletion to any extent, and in its connexion with chylopoietic derangement.

Strumous Ophthalmia.—This form is peculiar to young children; and appears commonly between the first and sixth year. There is considerable inflammation of the conjunctiva; the marked characteristic is, however, intolerance of light, which our author thinks, with Travers, is owing to a morbid sympathy of the retina with the primæ viæ. In consequence of this, the surgeon finds great difficulty in separating the lids, which Dr. Frick recommends to be effected by placing the head of the patient between the knees of the surgeon, and carrying the fore-finger of the right hand over the orbit, and raising the superior palpebræ with its point. It is frequently accompanied by pustules, which form at the edge of the cornea, in which case, the inflammation is diffused, the vessels radiating towards the cornea. In severe cases, the membrane becomes opaque, owing to the thickened state of its conjunctival covering, which Professor Beer terms *Pannus*: as in scrofulous affections generally there is an absence of pain.

A great discordance of opinion exists among writers as to the treatment of this species of ophthalmia. The main indication is, however, to improve the general health, on which the disease indirectly depends. As every thing debilitating is consequently objectionable, our author condemns powerful antiphlogistic means, but recommends the improvement of the secretions generally, by alteratives, combined with opium and antimonial diaphoretics, and a proper attention to regimen. Every thing indigestible is to be avoided, and the eye is to be unincumbered with bandages. When the cornea is opaque, the blue pill is to be given, so as to affect the system slightly. Excessive irritability is to be removed by a blister to the nape of the neck, and occasional narcotic fumigations. The mineral acids, with bark, either alone or combined with sedatives, are of great service as general tonics. Should a thickened state of the conjunctival covering remain, it is to be removed by local stimulants, as vin. opii. ung. hydrarg. nit. and circular sections of the vessels on the margin of the cornea.

Purulent Ophthalmia.—This is the severe form of suppurative inflammation of the conjunctiva of Mr. Travers. Our author questions the propriety of the name by which he has designated it, and prefers that of *Ophthalmo Blennorrhœa*, on the ground that it is not satisfactorily determined whether the secretion is purulent or not. We cannot perceive any advantage Dr. Frick has gained by this nicety of distinction. It is well known that the properties of the secretions of all the mucous membranes throughout the body are changed during inflammation, and in this instance the term suppurative is indicative of its rapidity, and the consequent danger attending it. The following description of the disease, as it appears in infants after birth, to which our author confines himself, is so accurate, that we shall give the substance of his own words. It attacks the child between the period of ten days to four months after birth, and rarely after the second or third year. A slight redness of the palpebral conjunctiva is first perceptible, to which succeeds a slight mucous or purulent secretion from the lids; there is an impatience of light, but the conjunctiva covering the globe remains unaffected; the symptoms soon however become more violent, constituting the second stage of the complaint; there now exists a greater redness and swelling of the conjunctiva, and an increased purulent discharge, which is of a yellowish or gray colour, much rerembling true pus; the intumescence is particularly referrible to the superior palpebræ, which is so protruded from the eyeball, as to cover entirely the lower one. Great care, says our author, is now necessary in the surgeon when examining the lids, lest the upper one become everted, in which case it is often impossible to reduce it; the pain increases, *pari passu*, with the inflammation, and like most forms of conjunctival inflammation, is periodical in its attack; an exacerbation coming on about bed-time, which is usually confined to the globe itself, though sometimes the cranium participates; occasionally a hemorrhage takes place, from the enlarged vessels of the palpebræ, which is always attended with an amelioration of symptoms. Should the disease progress with great violence, the cornea becomes clouded or opaque, and sometimes suppurates and bursts, affording the patient a momentary relief from the great distention of the organ. In ordinary cases, the cornea remains uninjured, and the disease terminates by a viscid discharge from the eyelids, which, with common attention, soon disappears. Dr. Frick considers the above description equally applicable to the Egyptian ophthalmia, which he is of opinion, existed in England previous to the expedition to Egypt. Without entering into the controversy on this point, which as regards practical purposes, is one of little moment, we would observe that we consider the opinion of Mr. Vetch as conclusive, who considers it a peculiar endemic, brought from Egypt by the troops, and propagated by actual contact of the discharge. It differs from the usual forms of purulent ophthalmia, in not affecting the general health, and in its attack commencing in the lower eyelid; there is also less pain than in the other species of ophthalmia. The cause which produces this aggravated form of the disease, is doubtless exposure to the night air, which, from the great heat, and heavy dews of that climate, must be particularly prejudicial. With respect to the exciting cause of the disease in infants, to which the foregoing remarks are particularly referrible, our author is of opinion, that it may be traced to the sudden change of the condition of the child, from the womb to the world, and to the atmospheric vicissitudes to which it is exposed after birth: we should deem this more probable than the commonly received opinion, that it is owing to the contact of the eyes of the infant with some acrid secretion from the vagina of the mother.

Treatment.—The first object is to arrest the inflammation, by relieving the engorged vessels; to affect this, venesection is the most powerful expedient. Dr. Frick objects to the practice of Mr. Vetch, and other English surgeons in bleeding ad deliquium, and prefers a common bleeding, to be repeated if necessary. Membranes like the conjunctiva, admitting of great distention, although partially emptied, will readily resume their former activity, and we should thence prefer a powerful impression to be made at the onset of the disease. Free evacuation from the bowels are to be promoted, for which purpose our author prefers calomel and rhubarb conjoined with antimonials. In patients of a weak constitution of body, the discharge being profuse and ichorous, with a flabby conjunctiva, general tonics and a nourishing diet are to be substituted, which will frequently arrest sloughing of the cornea, after it has commenced. As local applications, any of the styptic solutions, as alum, or sulph. zinc. will be sufficient. Beer prefers vin. opii., and Vetch speaks highly of the undiluted liq. plumb. acet. ; all these, however, act on one principle. Blisters, or tart. emetic ointment behind the ears, and the free exposure to dry air, are never to be omitted.

Gonorrhœal ophthalmia.—The existence of this form of ophthalmia has been repeatedly affirmed and denied. Dr. Frick, although he has never seen the disease himself, thinks the testimony of such names as Beer, Scarpa, and Vetch, are sufficiently corroborative ; the symptomatology is similar to the other forms of purulent ophthalmia, only more violent. Two causes are generally stated as producing it ; the suppression of the gonorrhœal discharge, and the communication by actual contact of it to the eye ; whether metastasis ever takes place from the first cause, is questionable, and we should rather think it owing to the connecting sympathies which exist. Mr. Vetch has unequivocally proved by experiment, that it is excited in the second way, but views the frequency of its occurrence, diminished by the knowledge of the fact, that a person cannot produce the disease in himself by direct application of the virus, secreted by his own urethra, but may in another. Our author now details two cases, one by Sir Astley Cooper, the other by Mr. Abernethy, where the gonorrhœa and ophthalmia alternated with a rheumatic affection of the joints. Neither of these are, however, sufficiently clear to determine, whether the conjunctiva or sclerotica were individually or jointly affected. Dr. Frick thinks, from the description of Mr. Vetch, that it must have been a rheumatic inflammation of the sclerotic coat; we confess ourselves at a loss to determine, but should conclude from the several descriptions of various authors, that in those cases where the ophthalmia arose from sympathy with the urethra, the inflammation affected the sclerrotica and iris; and when it was produced by direct application of the virus, the conjunctiva and cornea were the seats of the disease. It, however, so rarely occurs, that we will close this chapter by observing, that the cure of these varieties is to be effected by the same treatment as detailed under the head of Purulent Ophthalmia.

Rheumatic Ophthalmia. Sclerotitis.—This is rarely a primary disease, being generally metastatic of rheumatic inflammation; and from its ready extension to the iris, is chiefly known as iritis. Dr. Frick describes it as commencing with a lancinating pain in the orbit, which subsequently extends over the whole side of the head, an exacerbation taking place when the patient is warm in bed. The attack is frequently preceded by general rheumatic pain, which, as the disease locates itself, subsides. An increased redness of the sclerotica is now apparent, with intolerance of light, and an increased flow of tears. The obvious distinctions between the colour of the vessels in sclerotic and conjunctival inflammation, says our author, is, that in the former, they are of a lively carmine, or rose colour, the redness is also diffused over all the sclerotica, and is deeper situated: it might also be added, that the vessels of the sclerotica always accompany the motion of the eye, a circumstance peculiarly characteristic. The intolerance of light is not very great until the vessels shoot over the cornea, it then becomes a most distressing symptom. As the disease progresses, the redness is increased by the vessels of the conjunctiva joining those of the sclerotica; the cornea also loses its transparency, small vesicles form on its surface, which degenerate into superficial ulcers: these, in favourable cases, disappear with the other symptoms without leaving cicatrices. Should, at this period, the disease not be arrested, a vascular zone forms at the margin of the cornea; the pupil is now contracted, the colour of the iris towards its inner circumference being changed to green, produced, Mr. Vetch thinks, by the greater expansion of its fibres. Atmospheric changes, such as excite inflammation in similar membranes, are the causes to which this species of ophthalmia is particularly referrible. Usually but one eye is primarily affected, the other seldom predisposing until towards the termination of the disease. The outline of treatment is so similar to that of general inflammation, that we shall be very brief. Venesection and local abstraction of blood are particularly necessary in the first stage. Our author agrees with Mr. Vetch in censuring temporal arteriotomy, on the ground that it is followed by an aggravation of the disease; the arteries rapidly accommodating themselves to the exigency of the parts which they supply. The stomach is to be cleared by an emetic, followed by an active cathartic. Although mercury does not appear to be a specific in this disease, as in iritis, its exhibition to a certain extent is peculiarly efficacious. As the skin is usually dry and hot, antimonials in nauseating doses are never to be neglected. To palliate the pain and irritability, blisters and narcotics are powerful auxiliaries. Mr. Wardrop recommends the evacuation of the aqueous humour when great tension exists, which measure our author approves. After the violence of disease has been subdued, vin. opii. is to be applied to the eye with a camel's hair pencil.

Iritis.—From the danger attendant on this form of ophthalmic inflammation, and the unerring efficacy of the remedy employed in subduing it, we consider it entitled to particular notice. Its symptoms are modified by the causes which produce it, which may be either external, or arising from a peculiar diathesis, as syphilis or gout.

Idiopathic iritis is described as commencing with an obtuse, deep-seated pain in the eye, causing a sensation as though the bulb was pressed on from without, owing to the extreme distension of the vessels. The pupil is contracted, but retains its circular form and central position; the eye becomes sensible to light, and there is a change of colour in the iris, which becomes either reddish or green; its margin is puckered and inverted; the vision is now indistinct, either from an effusion of coagulable lymph, or to the inflammation extending to the capsule of the crystalline lens. During the first stage, the redness of the eye is proportionately less than the other symptoms; but as the disease progresses, the sclerotica is traversed by innumerable convergent vessels, which, concentrating around the cornea, form a beautiful rose-coloured zone. Here Dr. Frick takes occasion to remark, that this appearance occurs also in strumous ophthalmia, and cannot therefore be called characteristic. The pupil now becomes angular and irregular, owing to adhesive inflammation having taken place between the fibres of the iris, from which projects a gray ash-coloured membrane, forming a medium of adhesion with the capsule of the lens. Ultimately an orange-coloured tubercle forms upon the iris, which, suppurating, the purulent fluid it contains falls into the anterior chamber of the aqueous humour, forming the disease called hypopion. On the question whether pus is ever secreted by the iris, our author says, "Many pathologists, and among the number Dr. Farre and Mr. Travers, have supposed the iris incapable of taking on the suppurative stage of inflammation, and account for this appearance of pus in iritis from its being accompanied with ulcers upon the cornea, opening internally; others have termed this a spurious hypopion, and suppose it to consist of effused coagulated lymph. It is very probable, that the different terminations of iritis in adhesion or suppuration, depend upon the different tissues of the iris that are affected. Thus, if the inflammation be confined to the serous membrane covering the proper substance of the iris, coagulating lymph is effused; if, on the other hand, the cellular texture, or the substance of the iris be the part primarily attacked, we have abscess and suppuration." Sometimes a union takes place between the inflamed surfaces of the iris and cornea, producing staphyloma.

Iritis Syphilitica.—When iritis appears in a syphilitic patient, the cornea is uniformly obscured, but the iris is less irritable. The pupil becomes angular, and is drawn inward and upward toward the root of the nose—intolerance of light and lancinating pain in the eye-brow increasing toward midnight and abating toward morning, attend. Coagulable lymph is effused, and when the disease is allowed to progress, reddish tubercles are seen on the borders of the iris.

Iritis Arthritica.—The characteristic feature of this variety, as distinguished from the preceding one is, says our author, that the inflammation does not extend to the margin of the cornea, but leaves around its edge a narrow bluish ring, which becomes more perceptible with the increasing vascularity of the conjunctiva. We should be inclined to think that this could be most readily observed during the early stage of the attack; as during the progress of the inflammation, the vessels of the conjunctiva penetrating the sclerotica, would close up the space referred to. Mr. Vetch considers the distinction between conjunctival and sclerotic inflammation apparent; but says that he has never been able to perceive any difference in the arrangement or appearance in the vessels of the latter membrane sufficiently distinct to indicate the peculiarity of the exciting cause, or specific nature of the case.

The disease is modified by the irritability of the patient's habit, the iris exhibiting diversified appearances. As the termination, however, is always the same, unless proper remedies are employed, we will not detail them.

The exciting causes enumerated are, wounds of the membranes consequent on the operations for cataract or artificial pupil—check of the cutaneous secretions during an attack of gout, or a mercurial course.

Treatment.—The first indication is to remove the violence of the inflammation, which is to be effected by the means already enumerated in sclerotitis. Blisters do not appear to be as efficacious as in other forms of ophthalmia. The two subsequent points to be kept in view are to prevent or remove the effusion of adhesive matter, and to guard against the adhesion of the iris to the capsule of the lens. The first is to be effected by friction of ung. mercurial. et opii to the eye-brow, and by the internal exhibition of calomel and opium until the system is affected. Ext. belladon. hyosciam. or stramon. will prevent the latter. Dr. Frick thinks no ill effects arise from the exhibition of narcotics, except when carried to excess, or improperly applied. Their modus operandi he imagines is by inducing a state of palsy in the nerves, to which they are immediately applied, which state is communicated by sympathy to those which supply the iris. He has observed a similar dilatation and paralysis in hydrocephalus and in dying persons. When a syphilitic taint exists, this must be radically cured on the principles laid down in venereal diseases, or the patient will be subject to renewed attacks from any exciting cause. The excruciating nightly pains in the head are to be removed by frictions of ung. hydrarg. et opii, and foul ulcers on the cornea by a solution of the lapis divinus. In arthritic iritis general depletion and the free exhibition of mercury are not as indispensable; local detraction of blood and mercurial frictions being usually sufficient. Colchicum has been much extolled in this form, but experience has not finally decided on its merits. As gastric derangement is a usual accompaniment, we should think emetics and cathartics important adjuvants. Blisters behind the ear, or tartar emetic frictions, are never to be omitted.

Ophthalmitis interna.—This appears to be an insidious form of sclerotic inflammation, in which the tendinous expansions about the cranium largely participate. If suffered to progress, it becomes iritis. There is little or no apparent inflammation in either the sclerotica or conjunctiva, the pupil and iris first showing the evidences of disease. It fortunately is of rare occurrence, and calls for the same treatment as iritis, only if possible more vigorous.

Of the Diseases of the Conjunctiva. Pterygium.—Of this affection there are two kinds, the membranous and fleshy, or, as our author calls them, the pterygium tenue, and peterygium crassum. The first is a thin film or nebula of the sclerotic conjunctiva, its figure is pyramidal, with the base towards the caruncula lachrymalis. It extends towards the cornea, having a few straight, long, and detached vessels on its surface. The latter is a sarcomatous growth beneath the sclerotica, with a tongue-shaped extremity, which is formed by the deposition of lymph in the interstices of the membrane. It is different from pannus, which is merely a chronic thickening of the conjunctiva. They are to be removed by dividing the vessels at the base with a scalpel, and afterwards dissecting off the membrane with a pair of curved scissors; when it does not, however, encroach on the cornea, Mr. Travers recommends it to be let alone, and when it does, he advises the portion which covers the cornea to be removed by the application of escharotics, and never to be dissected off.

Tumours of the Conjunctiva.—These occur in the cellular tissue, which connects the sclerotica with the conjunctiva; they are usually of an adipose or cartilaginous nature, and like all excrescences of this membrane, are removed by excision; their reproduction being prevented by slight stimulants.

Diseases of the Cornea. Opacities and Specks.—The cornea frequently becomes opaque, in consequence of inflammation in the vessels covering or surrounding it; the extent of its affection being various, from a slight haze to a perfect opacity, our author has made three divisions. 1st, A condensed or increased state of the interlamellar secretion, commonly termed, nebula. 2d, The formation of a pseudo membrane, leucoma; and a third variety, that in which the lamellæ unite, albugo. Nebula usually impedes vision, but seldom destroys it; leucoma and cicatrices occupying the centre of the cornea, frequently cause total blindness. In leucoma there is a pearly opacity, which, when it occupies the centre of the cornea, so contracts the sphere of vision, as to render the patient blind, except by twilight, when the expansion of the pupil admits the rays of light through the diaphanous portion. Cicatrix, or albugo, is either the consequence of a wound or ulcer of the cornea; and when it is situated over the pupil, becomes an impediment to distinct vision. It is frequently produced by burns, or the application of corroding substances to the eye; nebulous opacity is to be removed by stimulating collyria, or ointments: of the former, the best are the solution of nit. argent, and hydrarg. oxymur.; of the latter, our author gives different formulæ; the basis of them all is, however, mercury in some shape. In all obstinate cases a slight mecurial action should be instituted. When the plexus of vessels shoot toward the opacity, circular incisions around the cornea should be made.

Ulcers of the Cornea.—These either primarily occupy the external surface, or are interstitial, and are usually the consequences of severe ophthalmia, or chemical injuries done to the cornea. They often gradually deepen and enlarge, and penetrate the inner coat of this membrane; the aqueous humour then escapes, and the iris approximates, constituting procidentia iridis. As there is usually considerable inflammation of the conjunctiva, antiphlogistic treatment is called for. The ulcer should be touched with a solution of argent nit. and in urgent cases the system should be put under the influence of mercury. When the ulcer is interstitial, and the constitution feeble, tonics are to be employed, together with opiates and local stimulants. Procidentia iridis is to be touched with an escharotic, or snipped off with a pair of scissors.

Staphyloma of the Cornea.—Dr. Frick divides this affection into total or partial. In the first there is a complete dilatation of the membrane of the cornea; in the latter it yields at a particular point. They both present conical eminences of a bluish or pearl colour, and are immediately dependent on an increased quantity of the aqueous humour. When irritation and deformity is produced by the eyelids being unable to close upon the tumour, it should be excised, for which operation suitable directions are given. Stimulating applications have been recommended for their diminution, but with little effect. Compression should be never employed. The interlamellar texture of the cornea is sometimes absorbed without adhesive inflammation taking place. In this case it retains its transparency, but renders the patient short-sighted. No efficacious remedy has yet been discovered.

Mydriasis.—A permanent dilatation of the pupil is usually symptomatic of amaurosis. When idiopathic, it is consequent on blows, which induce a want of sensibility in the retina. The remedies indicated, are to relieve the disease on which it depends, or to remove the atony of the nerves by stimulating applications, scarifications, and setons, which sometimes succeed.

Myosis.—An opposite condition of the pupil here exists, and in some cases a complete obliteration is the result, which by our author, is termed *Synizesis.* It arises either from an undue degree of sensibility in the retina, or is the effect of iritis. Artisans, who exercise their vision on minute or glaring objects, are subject to this affection, the pupil in these cases forming a habit of contraction. It also is consequent on the operation for cataract, coagulable lymph, or a portion of the lens, blocking up the pupil.

Synechia—Is divided into anterior and posterior. The first signifies an adhesion of the iris to the cornea ; the latter, to the capsule of the lens. They are both incurable when firmly established.

Artificial Pupil.—Cheselden was the first who operated in cases of artificial pupil by making a section of the iris, and is said to have been repeatedly successful. He made use of a couching needle, with a cutting edge on one side, and divided the iris transversely. Other operators afterwards failing to succeed, owing to the closure of the wound, new plans of operating were devised. Among the msot important of these, are the following : That of Wenzel, who made a semilunar incision through the cornea and iris, and then cut away a small portion of the latter, by introducing a delicate pair of scissors through the aperture—Great inflammation and entire destruction of the organ sometimes accompanying this mode, Mr. Gibson of Manchester, practised the evacuation of the aqueous humour, and the excision of such part of the iris, as protruded itself. Scarpa tore the iris from its ciliary attachments, but great hemorrhage is usually the result. The operation, in whatever way performed, is far from being uniformly successful. The pupil should always be made at a point where the cornea is transparent, and the operation is contra-indicated when one eye is sound, or when from appearances, a diseased state of the inner membranes or humours exist.

Amaurosis.—This affection may be either organic or functional. The vision is not always wholly interrupted, the patient being enabled to distinguish large objects. He first notices his sight to be interrupted by small bodies floating before the eye, called muscæ volitantes ; or when reading, the letters of the book appear transposed. Again, there is an oscillation of objects, or double vision. Light affects amaurotic persons differently, some being unable to bear the stimulus, others seeking it. It may be sudden or progressive in its attack, according to the nature of the exciting cause. The morbid characteristic in either case, is the pupil no longer obeying the stimulus of light ; its circular form is somewhat changed, and there is a coloured spot in the fundus of the eye, as in the horse or sheep. Severe pain in the orbit and temples is an attendant symptom. When any of the other senses are affected, there is but little prospect of a recovery. It most frequently occurs in middle-aged persons with dark eyes. The exciting causes are undue exercise of the eye, a long residence in dungeons, mines, &c. It is also a consequence of long disease, especially where the nervous system has been particularly affected, the indulgence of depressing passions, and profuse discharges of any kind ; the exhibition of narcotic substances in excess, as opium, belladonna, &c. Another cause, says our author, which is but little noticed, is a deficiency of the pigmentum nigrum. This is necessarily incurable. A disordered state of the abdominal viscera is perhaps a more frequent cause than any above enumerated. Idiosyncrasy of diet also sometimes produces it. Beer saw a case occasioned by the use of chocolate. The prognosis is always the most favourable when the attack has been sudden. When one eye is affected, the other soon becomes so. Dr. Frick considers the prevalent opinion of the disease being most readily cured when the pupil is least dilated, as erroneous.

Treatment.—This is almost exclusively constitutional, and is confined to improvement of the secretions, generally, particularly those of the digestive organs. The blue pill as an alterative, followed by bitters, with healthful exercise, are the most important means. Under local remedies, may be included abstraction of blood from the organ, and blisters or tart. emetic ointment behind the ears. All other topical remedies, including galvanism, the application of irritating substances, &c. are worse than useless. Under the head of depletion, it may be remarked, that there is an atonic state of congestion in the vessels of the eye, which general or local bloodletting only aggravates.

Cataract.—We can but glance at the pathology and treatment of this important disease, to which our author has devoted nearly 70 pages of his work, and to which we refer our readers for much useful and interesting information. The opacity may be either in the crystalline lens, or in the capsule. In the first case, it is esteemed lenticular, in the latter, capsular. During its incipient stage, it may be mistaken for amaurosis. The diagnostic differences, our author alludes to in pages 148 and 49, to which we refer. Several varieties are now enumerated.

Hard Cataract—Here the lens is smaller than natural, and of a dull white or horn colour, the nucleus or centre being dark.

Caseous Cataract.—G eater loss of vision here occurs, the lens being much enlarged, and of a flocculent appearance.

Lacteal Cataract, from its colour, resembling skimmed milk. This is a mere change of density in the lens.

Capsular Cataract.—When both the anterior and posterior capsules are the seat of disease, the vision is completely destroyed. When the anterior is alone opaque, the cataract is unusually convex; when the posterior, concave. Many comlicated varieties of this form are now detailed, which we necessarily omit noticing. The proximate cause of this disease is still dubious, but it is generally considered to be the result of inflammation. The formation of it is to be prevented, if possible, by strict antiphlogistic treatment, and when an operation is advisable, one of the three modes now in use may be adopted. These are couching, extracting, and keratonixis. The first is most usually practised in this country. Extraction is called for particularly when the cataract is hard, and keratonixis in the flocculent ones of children. So much however has been written on this subject, and the details of the various operations so minutely laid down by most surgical authors, that we proceed to the diseases of the humours.

Glaucoma—A disease of the vitreous humour, exhibiting a sea-green colour. Incurable.

Synchisis.—Solution or diminished bulk of the vitreous humour. This is frequently a sequela of the excessive use of mercury, and terminates in a complete atrophy of the organ.

Dropsy of the Eye.—This arises from an increased accumulation of either the aqueous or vitreous humours, as in staphyloma the eyeball protrudes beyond the orbit. In urgent cases, paracentesis is to be performed, and the aqueous humour evacuated.

Pure Inflammation of the Eyelids.—The cellular texture of the palpebræ is subject to inflammatory action, which usually commences in the upper lid, but ultimately extends to the lower, and involves the lachrymal and meibomian glands, and unless arrested, terminates in suppuration. It is to be treated by topical bleeding and cold lotions, and when matter forms it is to be evacuated by the lancet. Should fistulæ ensue, tonics are to be given.

Erysipelatous Inflammation of the Internal Canthus.—This assumes the appearance of erysipelas in other parts, and is to be treated on the same principle.

Psorophthalmia.—This, says Dr. Frick, is always induced by the poison of the itch directly applied to the eyelids. Small pustules appear round the margin, and the roots of the cilia are often destroyed. The eye is to be washed with tepid applications, and any of the ointments usually employed in psora made use of.

Hordeolum.—This is a phlegmonous tumour of the eyelid. At the commencement of its attack, resolution is to be attempted by cold applications, and when matter forms, it is to be evacuated. Should induration remain, ung. mercuriale is to be applied.

Granular Conjunctiva.—A very frequent termination of purulent ophthalmia is in a granulated state of the palpebral conjunctiva, which, acting like a foreign body, produces constant irritation, inducing frequently nebula of the cornea. Local bleeding by leeches is first to be employed, and if insufficient, sulph. cupri is to be applied, and the surface immediately afterwards washed with a pencil dipped in water.

Trichiasis.—The cilia, or the whole tarsus, are here inverted towards the globe. In the former case, the hairs are to be pulled out by a small forceps ; in the latter, a fold of the tarsus is to be removed by a pair of scissors.

Ectropion.—This is the reverse of the former disease, and is to be cured by excision of a fold of the conjunctival lining.

Paralysis of the Eyelid.—This is to be treated by local stimulants and blisters.

Concretions of the Eyelid.—An adhesion here exists between the eyelids and globe. The remedy is division of the connecting fibres.

The remainder of the work is devoted to diseases of the lachrymal organs. These, however, being numerous, and generally understood, we refer our readers to the work itself.

ART. II. REPORT *made to the Institute of France, on the* 22d *of March* 1824, *by* BARON PERCY *and* CHEVALIER CHAUSSIER, *on a Memoir presented by* M. CIVIALE, M. D. *of the Faculty of Paris: entitled "A new method of destroying the Stone in the Bladder without the operation of lithotomy."* Translated from the French by R. LA ROCHE, M. D. Philadelphia. 1824. pp. 38.

WE hasten to lay before our readers some extracts from this highly interesting memoir concerning M. Civiale's new method of destroying stone in the bladder, which, in the language of the distinguished reporters, Percy and Chaussier, "cannot fail to form an era in the healing art, and be regarded as one of its most ingenious and salutary resources." After giving a rapid sketch of the various means which have been employed for the relief of those labouring under stone, from the earliest periods down to the present, we are presented with the following account of the origin and nature of this great discovery.

"In the month of July 1818, Mr. Civiale presented to the Minister o the Interior a request for pecuniary advances, to enable him to get instruments of his invention made, which he said were adequate to the destruction of the stone in the bladder, without having recourse to the operation of lithotomy. This request was referred, some days after, to the Society of the Medical Faculty, with a memoir explanatory of many designs relative to a theory of the pocket of which he spoke, and secondly of the instrumental apparatus, which he already named lithontriptor. On the 14th of the same month, the society gave to Mr. Civiale the same two commissioners whom the Academy have lately given to him; but on that occasion they made no report, and here the matter rested.

"Nevertheless, this lithontriptic apparatus, with its present modifications and perfections, was executed the year following by a mechanician of Paris; so that the origin of this method, which now occupies us, may be traced four or five years back, although it has not acquired its full standing for much more than three years.

"The first step, and perhaps the most difficult to perform, was the introduction of a straight sound into the urethra and bladder. Desault and Mr. Deschamps, it is true, had sounded with a semi-curved catheter; and it is also true, that Lassone, in offering an anatomical description of the urethra, has given to understand, that this tortuous but flexible canal—extensible in every point except at the exterior orifice—could assume all directions, and even become straight, by means of a straight sound. Nor is it less true that in the office of a surgeon of Portici, long brass sounds, quite straight, and which could only have been employed as catheters, were found. We must likewise observe, that the Bavarian physician had also thought it possible, and even easy, to introduce into the urethra and bladder, the silver tube of fourteen inches in length and four lines in diameter, by which he proposed to commence his operation; but no one had as yet made use of this instrument among us; unless Dr. Amusat, who openly aspires to priority on this point, and whose fine work on the urethra is well known, had employed one similar in 1818. But it is no more our purpose to examine this subject, than to decide between Mr. Civiale, to whom the whole discovery is attributed, and his colleague, Mr. James Le Roy, who claims it in part. We prefer thinking that these estimable physicians, cotemporaries, and fellow-students, without confiding in each other, entertained the same thought, in the same way that Mr. Civiale could make the same discovery as the physician of Saltzburgh, without having heard of him or of that gazette; and that having started from the same point, and followed the same route, Mr. Civiale could have arrived first.

"Consequently, it was with the straight sound that it was necessary to commence; and our physician soon acquired the habit of using it with as much facility and dexterity as the common curved catheter.

"There was no other way than that for introducing the other instruments to the stone, or allowing them the necessary movements. But what are the other instruments? One is requisite to seize the stone completely, and allow it to escape only at the will of the operator. We cannot say, in respect to this instrument, that it is truly of Mr. Civiale's invention; since we find models of it among the ball extractors described and engraved in Bartholomy Maggi, and André de la Croix; since it is met with in Franco's work, who has called it his *vesical quadruple;* and since Mr. Deschamps has had it engraved in one of the plates of his work. But if he has not altogether invented it, which he would not have found much difficulty in accomplishing, it can with propriety be asserted, that he has succeeded in giving it its most appropriate application. It is likewise a sound; but one of steel—which can enter the former—straight and hollow like it, and terminating by three branches, very elastic, curved, and remaining closed and hidden so long as they continue in the principal sound, which performs the office of their sheath. When pushed out, they open by virtue of their elasticity, and form a kind of cage or steel purse, in which the stone is sooner or later made to enter, and which is immediately shut upon it, in pulling the sound backward, as far as the volume of the extraneous body, or the direction in which it has entered will allow.

"In the second sound, or rather in the cylinder forming the forceps, there is contained a long steel stilet, which enters and turns in it with ease, and is terminated at the end towards the bladder, and between the branches of the forceps, by a file, made in form of a strawberry, or by a small circular saw—a pyramidal trephine, according to circumstances, size, and supposed nature of the stone. This latter being firmly fixed, the moveable stilet is pushed towards it, and by means of a pulley with which it is provided at its exterior extremity, of a whirl on which it is mounted, and of a long bow with a catgut string, it is made to turn, in a manner similar to that resorted to when we wish to bore a hole through a plate of metal. No sooner is the machine in operation, than the hollow or sonorous sound of the breaking or grinding performed on the stone, according to its softness or hardness, is heard; and the patient suffers little or no pain.

"As the work progresses, the stilet is made to advance in the same proportion towards the stone; and this is done by suspending for a moment the action of the bow, which is soon resumed, in order to pulverize more and more the stony concretion, and, if the operator or patient is not too much fatigued, to hasten its destruction; but as it is intended to accomplish this in two or three operations, it is postponed to periods more or less distant. A spontaneous discharge of urine, or an injection of warm water into the bladder, usually terminates the operation, and causes to pass by the urethra, now dilated by the large sound, fragments of the stone, more or less numerous or considerable, or a muddy sediment, which soon precipitates and is easily collected.

"At first, Mr. Civiale, instead of the bow, employed a handle, which he is a good deal disposed to resume; first, because he finds it more simple and quite as convenient; and in the second place, because it is his own idea, whilst the other is the suggestion of a stranger.

"We omit, through design, a number of descriptive details, and minute precautions, which, though they concur to the *ensemble* of the operation, could not be easily understood in a simple lecture. But it is important to say, and it is necessary to be known, that we have assisted at the various and indeed almost public trials, which Mr. Civiale has made of his method, as well upon the dead as upon the living body; and that we have been completely satisfied of the truth of every thing he had previously announced to us.

"Thus, real stones having been introduced by an incision into the bladder of many dead bodies, and made fast almost without difficulty in his pincers, were broken into pieces and pulverized almost instantly by the lithontriptor.

"We remarked, in the course of these trials, that during the pulverization of the stone, the bladder is beyond the reach of any bruise from the instrument; and that we convinced ourselves there was little foundation for the fears we had entertained with regard to this point, in the operation on the living subject."

The following cases, which were witnessed by the commissioners, are sufficient to establish the efficacy of the proposed method of destroying stone in the bladder.

CASE I.

"On the 13th of January last, we proceeded to the house of Mr. Civiale, where we met several physicians and surgeons of high reputation, such as Messrs. Larrey, Giraudy, Nauche, Sue, Sedillot, and others; and where also we found Mr. Gentil, thirty-two years of age, who had suffered for the last four years from a pretty large and hard stone, of the existence of which we assured ourselves by a decisive examination; and who, full of courage and resolution, anxiously waited the commencement of a trial from which he expected to escape safe and sound, and the chances of which he had carefully weighed before submitting himself to it, and giving it the preference over the ordinary operation.

"Having placed himself upon a small bed, and the stone being felt once more, Mr. Civiale introduced down to it, and almost at the first attempt, the large strait catheter, having in its centre the forceps and the lithontriptor. The urethra offered no resistance to the passage of this sound, previously lubricated with cerat, and the stone was seized immediately. Mr. Civiale next proceeded to the trituration. Each stroke of the bow occasioned in the ears of the assistants a noise and cracking which indicated the hardness of a stone of oxalate of lime, and the promptness of its destruction. Three times the operator rested, and afforded respite to the patient, who experienced more uneasiness than real pain. After about forty minutes, Mr. Gentil left the bed alone, voided, together with a little urine, the water that had been injected into the bladder, and was much pleased to reject at the same time, numerous pieces of the stone, which was estimated to have been reduced about one-third by this operation.

"The operation was again resorted to on the 24th of the same month, and we had the satisfaction to see at the house, besides the witnesses before mentioned, our learned colleague Mr. Magendie, and Messrs. Serres and Aumont, whose names are so advantageously known. The breaking of the stone was continued, but was unattended by any circumstance worthy of remark.

"On the third of February following, the deliverance of Mr. Gentil from the stone was completed; there escaped from the washed bladder a larger quantity than ever of fragments and pulverized stone, which, when calculated together, gave the approximate size of the calculus.

"A few baths and injections, and the use of a mild and mucilaginous drink, were the only auxiliaries to an operation, for each repetition of which Mr. Gentil walked to Mr. Civiale's, and which changed this young man, who for a long time was gloomy and suffering, into the most lively and happy of mortals.

" We have since seen Mr. Gentil several times, and have sounded him without discovering any thing. All in fact announces a perfect cure; excepting, however, the risk of a relapse, from which lithotomy itself does not preserve, and against which we can so much the less be assured, since in the operation of Mr. Civiale, the stone being minutely divided, it is easier for a fragment to remain in the bladder, and there become the nucleus of another calculus.

CASE II.

" Mr. Laurent, of Rheims, was sent to Mr. Civiale by Dr. Simons of that city, for the purpose of being operated upon for the stone, the nucleus of which was thought, agreeably to a declaration of the patient, which it would be superfluous and indiscreet to communicate here, to be a white bean. We accordingly assembled at the house of the patient on the 4th of February of the same year, accompanied by Mr. Souberbielle, a very experienced and distinguished lithotomist, who was led more by the desire of witnessing the success of the new method, than by the curiosity with which he was inspired. Some days before, Mr. Civiale had introduced into the urethra a flexible sound of small diameter, and gradually increased its size, in order to enlarge this canal, and render the introduction of the large sound of the stone-breaker more easy. This last was introduced without difficulty, after we had assured ourselves of the existence of the calculus, which we judged to be of little hardness, and of the size of a large chesnut. The bow was now put in operation, and the foreign body soon cut into, without however, occasioning any thing more than a hollow and sometimes very obscure sound. The bladder being very irritable and contractile, the operation was shortened, and repeated only on the 7th, after the application of some leeches, and the frequent use of emollient injections. In the interval, several small pieces of friable stone, and a great quantity of saline earthy sediment, had made their escape. The result of the second operation was the rejection of some pieces of the broken calculus, and of two or three small masses of an animal viscous matter, which when pressed between the fingers, gave the feeling of small and feebly agglutinated granulations.

" At a second meeting, which took place on the 10th, the forceps having seized something which appeared to possess little solidity and volume, it was discovered to be the bean that served as the nucleus of the stone. It was deprived of its incrustation, and presented a projecting portion, pretty large, and as fresh as when in full germination.

" A few days after, we assembled for the last time, with Drs. Souberbielle, Nauche, Delattre, &c. in order to terminate our undertaking. The large sound with the three branches brought away but small pieces, together with which a sort of membrane was extracted, which was at first mistaken for an empty hydatid, but afterwards recognised to be the pellicle of the bean. Dr. Souberbielle, having sounded the bladder in all directions with a common sound, announced the existence of another fragment, but porous, small, and easy to extract. In effect, this latter fragment. having advanced beyond the neck of the bladder, it was easily extracted by Mr. Civiale by means of the long pincer, called Hunter's, but which might as well be called Hales's, as this latter was the first who made mention of it.

"Laurent, quite freed from his stone, and full of joy and happiness, left Paris a few days after for Rheims, from which place it is his intention to send us, through the medium of Dr. Simon, occasional intelligence of his health.

CASE III.

"Mr. P. of Paris, has very recently offered himself as the subject of a third observation, not less conclusive than the two former. This young man having, himself, made some preparation for the operation, either by using occasionally hot baths, or by dilating the canal of the urethra with bougies of graduated diameters, submitted to it for the first time on the 2nd of the month, in our presence, and under the eyes of Mr. Souberbielle and many of his colleagues. The stone being of the size of a pigeon's egg, or thereabouts, but of middling hardness, was seized and attacked with complete success. On the 5th, the calculus not having been discovered, this second trial had no success. Mr. Civiale having found it necessary to make use of a lithontriptor of larger size than that employed three days before, made a small incision at the mouth of the urethra; and by this means opened a free access to the instrument, which now acted with liberty and great force.

"On the 18th the third operation took place, and on that occasion Dr. Canin, ex-principal surgeon of the armies, Dr. Puzin, first surgeon of the body guards of Monsieur, the king's brother, and more than a dozen of other equally enlightened and honourable witnesses, were present.

"On this day, to introduce the lithontriptor, find and seize the calculus, although much diminished, and file a great portion of it away, was the work of a minute. Small agglomerations of gravel, and a great quantity of fine sand, comparable to that of cutlers, were rejected with the urine and injections. By means of the long pincers of Hales, three or four small packs of mucus, enveloping some calculus grains, were extracted. The cure was considered as nearly affected; and it was agreed that in a few days Mr. P. would be once more examined and sounded, and in case some fragments of the stone which had escaped the last researches were found, they could be removed by means of injections, and if necessary, by the use of the pincers; an operation which he was far from apprehending."

With becoming caution the commissioners make the following statement concerning the circumstances, under which this operation may not be attended with the same success.

"But however promising the facts may be which we have just related, it must not be believed that the result will invariably be so favourable. It will soon be seen that in addition to the temerity that would be shown in anticipating constant and unchecked success, there are cases in which the lithontriptic instruments can neither be applied nor fulfil the objects of their application. For example, if a stone has dimensions extraordinary, and not proportioned to the development of the pincers destined to seize it, it will readily be conceived that under these circumstances, which fortunately are only met with at long intervals, it would be necessary to renounce the lithontriptic method, and have recourse to the high operation. It will also be ineffectual in cases of adhering and encysted stones, which also are fortunately very seldom met, and owing to their adhesiveness and immobility, cause much less pain, and are a longer time supportable than free calculi, the only kind that are capable of being seized and destroyed by the instruments of Mr. Civiale.

"Stones having for nucleus a large metallic needle,—a tooth-pick,—an ear-pick of gold, ivory, bone, or whale-bone,—a steel awl,—a piece of pipe of horn or iron, a leaden bullet, or a fragment of bomb, &c. of which examples may be found in the memoirs of the Royal Academy of Surgery; of which we have seen examples, and placed specimens in the cabinets of the Medical Faculty of Paris; and of which before us, Collet, Moinicken, Cavillard, Mareshal, J. L. Petit, Morand, Desault, &c. had found examples in their practice. Such stones assuredly would not be destructible by our mechanism; although, to say the truth, they might by means of it be reduced in volume and weight, and thereby become a little less painful; which, however, would not remove them from the domain of lithotomy.

"By the method of Mr. Civiale, we might, it is true, succeed in breaking a prune kernel, forming the nucleus of a calculous concretion, and such as has been met with two or three times. With much more facility could we succeed with an ear of wheat, of rye, or with a piece of pine match, a fragment of wax, large beans, &c. such as lithotomists have found in the centre of several stones. In respect to French beans, we have established the fact in an unanswerable manner. But there are bladders so sensible, contractile, and shrivelled, in fact so affected, that the lithontriptic instruments could not be used in them without the greatest difficulty, and that it would be imprudent to introduce them, although it is perfectly well ascertained that the pathological state of the bladder depending very often exclusively on the presence of the stone, especially when it is *mural*, it is sufficient to remove or destroy the foreign body in order that the viscus may promptly recover.

"Children, although very young, do not appear to us to be absolutely excluded from the operation of Mr. Civiale. The small size of their penis, will, perhaps, be offered as an objection; but independently of the circumstance that this supposition is gratuitous, since the handling and forced elongations which the pain at the extremity of the urethra accustoms them to exercise on that part, increases singularly and prematurely its length and volume, is it not possible to make instruments proportioned to this very interesting class of calculous patients, as has been done in the other method, to which we are not sure, however, that notwithstanding this precaution, we should not be compelled to refer many cases?

"From what precedes, and anxious to preserve a just medium between enthusiasm, which exaggerates, and the prejudice opposite, which endeavours to underrate all things, we believe that the method proposed by Mr. Civiale for destroying the stone in the bladder, without having recourse to the operation of lithotomy, is equally glorious to French surgery, honourable to its author, and consoling to humanity."

We learn from the worthy translator, Dr. Roche, that preparations are making by our distinguished countryman, Dr. Physick, as well as several other surgeons, for testing the proposed improvement of Dr. Civiale, on the earliest opportunity which may prevent itself. The result will, of course, be laid at once before the public.

Medical and Philosophical Intelligence.

DOMESTIC.

Amputation at the Hip-Joint.—We are happy to announce to our readers, that the boy upon whom Dr. Mott performed the amputation at the hip-joint, in the New-York Hospital in October last, has completely recovered. The necrosis of the femur, which arose from a fracture of this bone in two places, had extended itself to the great trochanter. The thigh bone had been broken about ten months before the operation, and although a considerable quantity of new bony matter had been thrown out, the whole bone was in such a state, with several extensive sinuses leading to different parts of it, as to leave no doubt in the mind of the operator, that removing it from the cotyloid cavity, would give him the best prospect of recovery. The particulars of this operation will be given in a future number of the Journal.

Operation for extra uterine fœtus.—Dr. Mott about six weeks since operated upon a female about thirty-four years of age, in whose abdomen a child had remained two years and eleven months. The fœtus is in a very perfect state, and of the ordinary size of a child about seven months and a half old. It lay along under the umbilicus upon the small intestines, with the head to the left side. One delicate membrane surrounded it, which was now closely applied to the body, but easily separated, and in some parts having an aqueous fluid underneath it. From near the feet a narrow membranous attachment went to the broad ligament on the right side. Two other more acute adhesions were found to the parietes of the abdomen of the mother, one opposite the umbilicus, and the other a little to the left opposite the shoulder of the fœtus.

In about eleven hours after the operation vomiting came on, which continued about 24 hours, when she expired.

On inspecting the body, no inflammation was found in the intestines or peritoneum. She appeared to perish from the irritation of the operation.

The particulars of this interesting case will be given in a future number of our Journal.

Jukes's Apparatus improved.—The apparatus of Jukes, for removing poison from the stomach, we are gratified to state, has recently been slightly modified by Mr. Rose, an ingenious cutler of this city (of the firm of Rose & Sellers), who, by the substitution of one instead of two stopcocks to the pipes of the syringe, brings out the same effect, with less loss of time and trouble, than in the original instrument: so that this instrument, which owes its existence to one of our countrymen, has thus been improved by a fellow-citizen, who keeps them constantly on hand for sale.

Medical Ethics.—In looking over the April number of *L'Observateur des Sciences Médicales*, edited by M. Roux, of Marseilles, we find a translation of the whole of the System of Medical Ethics published by the State Medical Society of New-York in 1823. It is well known that the Committee, to whom we are indebted for this valuable code of Ethics, consisted of Drs. Pascalis, Manley, and Steele.

FOREIGN.

On Digitaline, by M. Royer.—The active principle of Digitalis was obtained by digesting a pound of the plant of commerce in ether, first cold, and then heated under pressure: the solution was filtered and evaporated, the residuum dissolved in water and filtered, the solution treated with hydrated oxide of lead, the whole evaporated and digested in ether, which dissolved out the active principle: on evaporation it appeared as a brown pasty substance, slowly restoring the blue colour of reddened litmus paper, very bitter and very deliquescent. It is very difficult to obtain it crystallized, but a drop of its solution in alcohol, evaporated on glass, over a lamp, when examined by a microscope, gave abundance of minute crystals.

That conviction might be obtained of the active nature of this substance, a grain was dissolved in about 180 grains of water, and injected into the abdomen of a rabbit; in a few minutes respiration diminished, the circulation diminished, and the animal speedily died without agitation or pain, which is the more remarkable as the rabbit is convulsed with great facility. Half a grain in 120 grains of water, ejected into the veins of a cat, caused a similar death in about 15 minutes. One grain and a half in half an ounce of water, introduced into the jugular vein of a dog, caused death in five minutes. In all these cases the arterial blood presented a decidedly venomous tint, and coagulated with difficulty.—*Brande's Quar. Journal.*

Castorina, a new animal substance.—The following substance is described by M. Bizio, in the *Giornale de Fisica*, vii. 174. Some castor was boiled in six times its weight of alcohol, 0.85, the liquor filtered when hot, and set aside for two or three days, gradually deposited a substance which had no regular form, was extremely light, and fell into powder under the fingers. Alkalies had no action on this substance, when their solutions were boiled on it, except to remove colouring matter and thus render it purer. It was but slightly soluble in cold alcohol, more, as has been seen, in hot alcohol: cold water scarcely dissolved any of it, hot water took up a small portion. The cold solution in alcohol, when spontaneously evaporated, gave the substance in small prismatic acicular crystals, some lines in length, diaphanous and white. It dissolves in ether very readily. When heated, it fuses and appears to boil, vapours arise from it, which in the open air burn brilliantly; in close vessels it gave the usual products of a vegetable substance, nothing occurring to indicate its animal origin.—*Ib.*

M. Isenflamm, of Dorpat, on the Varieties of the Osseous Tissue.—The colour of the osseous tissue, like all other tissues, undergoes changes more or less manifest in different diseases. In a fracture, for example, the two extremities of the fractured bone become covered with a reddish matter, which serves to reunite them. When the blood is washed away, and the bone macerated in water, the osseous tissue becomes white. The same is true of callus, which, in spite of its reddish hue, arising from blood-vessels, is blanched by maceration; while, by the internal exhibition of madder, it takes a red colour, as bone itself does. In rickets, the bones, besides the softening which they undergo, become transparent, and resemble the bones of new-born infants. In gout, on the contrary, the bones become hard, and approach in structure to ivory. In spina-ventosa, caries, and osteosarcoma, the bones, after being, for a time, greenish, become black, while in necrosis a portion of the bone resembles chalk. In morbid ossification of cartilages, vessels, muscles, &c. the resulting tissue is white, and altogether analogous to that of bone reunited by the process of inflammation. In phthisis and dropsy, the bones suffer a loss of part of their marrow, become partly infiltrated with water in their cellular parts, and are, at the same time, very hard and very white, particularly in patients who die in the flower of their age. Stall and Wrisberg have observed that the bones, as well as the cartilages, and the brain of icteric patients, are strongly tinged with yellow.—*Anderson's Quarterly Journal.*

Dr. F. Lavagna's Experiments on Menstrual Blood.—This young experimenter, the nephew of the celebrated discoverer of ammonial injections in amenorrhœa, has lately analysed the blood secreted during the menstrual discharge, and has ascertained that it differs from common blood only in containing little or no fibrine.—*Ibid.*

On the Moisture of Respiration.—M. Magendie has asserted, that the moisture of the breath does not proceed from the lungs, but from the water exhaled in the aerial and nasal passages during respiration. Drs. Paoli and Regnioli were led to doubt the correctness of this from a case of tracheotomy, in which the air passing through a canula in the wound, showed the presence of moisture at 4° Reaumur. A glass applied four inches from the canula was covered with moisture. They conclude that the moisture of the breath is formed from the whole surface of the respiratory organs; that it takes place from simple exhalation from the mucous membrane; and that all the oxygen consumed is employed in forming carbonic acid gas.—*Ibid.*

M. Bayle on Rupture of the Heart.—M. Bayle has recently investigated the pathology of ruptures of the heart. The following are his remarks:—

" Although there is on record a certain number of cases of rupture of the heart, this affection is nevertheless extremely rare, in comparison with the other diseases of this organ, which are so frequent. No mention of this complaint is made in the works of Corvisart and Laennec, which have thrown such a lustre on this subject. Morgagni appears to be among the first who observed this complaint, (vide Lett. lxiv. No. 14, 15, and his Adversaria Anatomica.) Bohnius relates a case of rupture of the left ventricle near the origin of the aorta, and Bonet relates another. Senac (Treatise on the Diseases of the Heart,) quotes two cases, which did not, however, come under his own observation. In the Memoires de l'Academie des Sciences, 1732, p. 428, two cases of the same kind are recorded. In the third edition of Corvisart's work, one case is mentioned which came under the observation of Dr. Ferreus. In 1820, two distinguished physicians, Blaud and Rostan, published in the 7th volume of the Nouveau Journal de Médicine, and the other in the 68th Number of the Bibliotheque Médicale, two interesting papers, which contain each four cases of this disease. My friend, Dr. Andral, read before the Academie Royale de Médecine, in the sitting of the 12th of April, a very curious instance of this kind. On the posterior surface of the left ventricle of the heart, there were five oblong perforations. In observing what these different cases present in common, we see—1. That of nineteen cases of rupture of the heart, fourteen occupied the left ventricle, and principally its anterior surface near the apex; three the right ventricle; one the apex; and another the inter-ventricular septum. 2. That in the majority of cases the heart was remarkably soft, and in some cases of a brownish colour around the perforation. 3. That of ten patients affected with rupture of the heart, one was between 50 and 60 years of age, another between 60 and 70, six between 70 and 80, and two between 80 and 90. 4. That of the same number of patients, eight died instantly, one at the expiration of about two hours, and another at the end of fourteen."—*Ibid.*

Influence of the Stomach on the Production of Apoplexy.—A memoir on this subject, by J. R. Richond, has lately received the prize of the Royal Society of Medicine of Bordeaux. The following are the conclusions at which the Author arrives:—

1. The stomach exercises a great influence on the brain; the close connexion which exists between them being indispensable to the execution of their functions.

2. The stomach expresses its wants to the brain, by the sensation of hunger and thirst; the former announces the necessity of excitement, the latter is the result of it.

3. Besides the functions of nutrition, which it effectually fulfils, the stomach likewise tends to keep the brain in the condition favourable for its action: it is, as it were, the balance of life.

4. The necessity of excitement, experienced by the mucous membrane of the digestive organs, is one of the most imperious, and one, the satisfying of which is the most necessary to the regularity of all the movements.

5. According as this excitement is more or less active, so is the action of the brain more or less energetic. To be convinced of this, it is only necessary to observe the effects of spiritous potations.

6. Drunkenness is the result of cerebral excitement, caused by the sympathetic action of the stimulated gastric membrane.

7. The ideas relative to taste are generally subordinate to the state of the mucous membrane of the digestive canal; and very frequently the moral is modified according to the sensations which the brain then perceives.

8. The influence of the stomach on the brain may be appreciated in the state of sleep, as well as watching.

9. In the state of disease, the stomach communicates the suffering to the brain; and from this participation results the development of cerebral phenomena, more or less perceptible to the observer.

10. These phenomena are not always purely sympathetic: the brain and its membranes are really affected more frequently than is supposed.

11. When the gastric irritation is chronic, and of long standing, there are almost always alterations in the brain or its coverings, which, by their sudden aggravation, may give rise to mania, epilepsy, and sometimes apoplexy.

12. This sudden aggravation which produces apoplexy, is most frequently the result of an excitement of the stomach communicated to the brain: it is in this way that it very frequently takes place during a repast, after indigestion, excess in spiritous liquors, the action of an emetic, &c.

13. The extravasation of blood may sometimes be the result of this, but its existence is only eventual, and it does not constitute the essence of the malady.

14. This extravasation, when it happens, is at the spot where the irritation predominated; because the vessels of this part, always gorged with the blood which flowed to it, have become dilated and softened, and thus rendered more liable to rupture.

15. If there be a partial softening of the brain, the blood may escape at this point, and produce those caverns which have so improperly been regarded as the product of hemorrhagy alone.

16. Very often, in chronic gastrites, we meet with evident alterations of the heart, which are not to be regarded as independent, but which are the result of the sympathetic transmission of the irritation of the stomach.

17. The treatment of apoplexy ought to be entirely antiphlogistic, for the disease is one of irritation.

18. Emetics, purgatives, and blisters, are, for the most part, injurious. When they succeed, it is by producing a revulsion; but this is rarely obtained, and most frequently the irritation which ought to produce it, turns to the increase of the disease it was intended to combat.

19. To attempt to procure this revulsion, would be to subject the patient to great danger, without much chance of success. It is easy, in truth, to conceive that a considerable alteration of the brain, or its membranes, cannot be cured in a rapid manner; and that the displacement of the irritation which has caused it must be very difficult, particularly if the means employed act upon a surface connected so intimately with the brain as the mucous membrane of the stomach.

20. All the substances which are regarded as proper to restore strength, to give tone, to diminish stupor, debility, &c. must be proscribed with care, so long as any irritation of the brain and stomach exists.

21. To have recourse to excitants, such as electricity, the nox vomica, &c. against consecutive paralysis, is to have an idea of the disease entirely false. These means cannot repair the ravages which exist in the brain, whilst they are of a nature to increase and aggravate them.

22. During convalescence, the stomach merits very particular attention; the practitioner ought never to forget that too much stimulation may produce fatal mischief. The lightest diet, mild drinks, an exact observance of all the principles of hygiene, and the removal of the causes capable of ex-

citing the stomach and brain,—such are the meaes most proper to promote a recovery.

23. The employment of the means proper to calm cerebral and gastric irritation, which generally exist in persons having a predisposition to apoplexy, is the only anti-apoplectic to be trusted.—*Lon. Med. & Phys. Journ.*

Effects of Lightning on the Human Body.—The following is an extract from an account by Dr. Tilesius, of Mulhauzen, given in *Schweigger's Journal.*

" Two vehicles were passing along a narrow road embedded in a forest: in the first were two brothers of the name of Teele, one aged thirty-three years, the other twenty-nine; in the second was M. Teele the nephew, aged twenty years, and M. Decker. The lightning struck successively the first horse, the two brothers, M. Decker, and his companion; the last did not survive. The horse remained dead on the spot: the skin on the lower part of its belly was torn, the mouth open and the teeth black.

" The lightning passed to the younger Teele by his umbrella, which. with his watch, was thrown twenty-four steps off; the vehicle had a hole made in it six inches in diameter. The body, carried to the nearest village, was put into a warm bath and rubbed; blood flowed from the nose, mouth, and ears, but no signs of life appeared. The mouth and nose were black; the skin and muscles of the arms and hands, both of which held the umbrella, were furrowed to the bone; the sleeves of his clothes were torn; the lesions of the skin were not like those produced in burns; the skin appeared as if it had been raised by rapid rubbing, and the clothes bore no trace of burning, but seemed as if torn by a sharp point. M. Decker, who was in the same car, received at the same moment, a blow on the stomach so violent that he was thrown out, and remained insensible for half an hour. When examined, the place on which he felt the blow was found very red but unwounded: he very speedily recovered.

" The two brothers were sitting side by side when struck; the lightning first reached the head of the elder brother, tore his velvet cap into several pieces, glanced over the temporal bone about an inch above the left ear, then behind that ear, and flaying the skin slightly, descended to the neck; it traversed the nape of the neck obliquely, and ascended to the right ear, the interior of which was as if scratched; it then went by the right shoulder, beneath the chin, over the right breast along the arm, and returning to the back, descended along the vertebral column to the sacrum. In this last part of its course, the skin was not torn, but only slightly raised, and much reddened; marks of the same kind were across the arms, and with the torn clothes, showed the zig-zag path of the lightning as it had passed alternately from the right side of the younger brother to the left side of the elder. It continued its course on the former from the part where it had come in contact with some pieces of metal contained in his pocket, and at which place it had raised the skin of the muscles of the side, for a space as large as a hand; it then crossed the stomach to the left side, and passed over the internal surface of the thigh, knee, and calf of the leg. The width of the trace marked by the lightning, was generally about two inches; the wounds were most extensive and deep at the intersections of this trace; many of them were very painful, and suppurated abundantly; the skin had been closely rolled up on the right and left by the rapid passage of the lightning. The wounds did not bleed; and on healing, those phenomena only took place which accompanied the simple formation of skin. Nothing indicated a lesion of the organs due to fire or heat, but the effect was just such as would have been produced by the passage of a bullet over the surface.

" The two brothers, on becoming sensible, felt excessively sick, and after drinking some tea, vomited several times, throwing out a little blood. No fever occurred. The eldest was quite deaf on the day of the accident, but recovered his hearing, in part, on the morrow. No paralysis occurred in the limbs struck by the lightning, and the wounds cicatrized in a few weeks.

" The accident happened in May 1821. Twelve months afterwards, the elder brother remained affected by deafness, which varied with the weather; he had a strong tendency to sleep, and sometimes slept twenty-fours hours if not awakened. The younger, ultimately, had an inflammatory fever, and was subject to a periodical depression, of which he had previously felt nothing; and, generally, a much stronger impression had been made on the nervous system of both, than from the vigour of their constitution might have been expected."—*Brande's Quar. Journal.*

Wound through the Chest, piercing the Diaphragm and Stomach.—On the 7th of May, 1824, a man, about twenty years of age, on the evening of his wedding-day, plunged a very sharp cook's knife in the interval between the sixth and seventh rib, on the left side, and towards the sternum. He immediately fainted away. The medical men who were called in, judging from the situation and direction of the wounds, and the marks of blood upon the knife, that it had penetrated about two and a half inches; the symptoms announced an internal hemorrhage, which appeared to cease for a time: it, however, soon recurred, and the man died thirty-four hours after committing this desperate act. The body being opened, the following appearances presented themselves:—The wound had penetrated the cavity of the thorax for the space of an inch, but the lung was not wounded; yet there was a considerable effusion of blood on that side, arising from the wound of an intercostal artery. At the spot where the diaphragm was wounded, a sound was stopped in consequence of the protrusion of a portion of omentum. In the abdomen, the stomach was found pierced to the extent of three lines, at its anterior and superior part; and an effusion of blood had taken place into the colon, extending to the hypogastric region.

The conclusion which the reporter of this case (Dr. Millet) draws from this examination, is, that it tends to confirm the experiment of Dr. Williams, and goes to prove that the lungs do not, in their natural state, fill the interior of the pleura in the act of respiration; for, had that been the case in the instance above related, the lung could not have escaped without being wounded.—*Lond. Med. & Phys. Jour.*

Effect of Castration in certain Animals.—M. Faneau Delacour, of Souzay, has performed a number of experiments upon sheep and pullets, with a view of determining the effect of castration upon the animal economy, conceiving that the loss of organs so important as the testicles, could not take place without materially affecting the health; which opinion was strengthened by considering the sudden evils often arising from more trifling causes,—such as the disappearance of eruptions, or the drying up of a long-established ulcer.

M. Delacour had eighty pullets castrated in his presence: eleven of these immediately exhibited well-marked signs of cerebral affection, and in three others the symptoms were observable, but not to so great a degree. Of eight which became mad, four of the worst, as well as two out of three which were threatened with apoplexy, were cupped upon the rump, and an actual cautery applied on each side of the cupping-glass; and in the four first instances, a cautery was also applied on the head. All these recovered: whereas, one left entirely to the efforts of nature died on the third day, the brain exhibiting the strongest marks of inflammation.

The same phenomena were observable among a flock of sheep, and in a greater proportion. The same remedies were made use of in seven of these animals, and they all recovered on the day the cauteries were made: whereas, two left entirely to nature died,—one on the fourth day, with all the marks of madness; the other on the second day, in a state of coma. The examination of the heads showed, in the first instance, a violent state of inflammation of the brain and its membranes: the brain of the second was softened, and the ventricles filled with a fluid resembling the white of an egg a little coloured.—*Ibid.*

Detection of Hydrocyanic Acid in the Human Body.—M. Lassaigne has published a long, but very interesting, paper on this subject, of which we can now do no more than give the conclusions deduced from his experiments and observations; which are these—

1st. That, by chemical means, it is possible to recognise, in a distilled aqueous liquor, the presence of hydrocyanic acid, in the proportion of one 20,000th part of the weight of the water.

2d. That in animals poisoned by this acid, it is possible, at the end of eighteen and forty-eight hours, or even a longer period, to detect its presence.

3d. That it is in the viscera where the substance has been primarily taken, that it is to be discovered.

4th. That, in the brain, heart, and spinal marrow, it has not been possible to detect the most minute quantity, although the odour would induce the suspicion of its presence.

M. Lassaigne is aware that M. Itard's experiments led him to the conclusion, that hydrocyanic acid might be spontaneously developed in the body; but, as the sense of smell alone has been appealed to as a proof of this fact, M. Lassaigne questions its being correct; especially as M. Robiquet has shown that the oil of the lauro-cerasus, which has a strong odour of bitter almonds, does not owe this to the small quantity of hydrocyanic acid it contains, but to a volatile oil. Added to which, M. Lassaigne has carefully examined the evacuations of the human subject; the matters contained in the intestines of various animals, especially of dogs, who have died of inflammatory diseases; as well asanimal substances in different degrees of putrefaction, and has never been able to detect the presence of this acid.—*Ibid.*

Of the Efficacy of the Root of the Artemisia Vulgaris (Mug-wort) in Epilepsy. By Professor C. G. Hufeland.—Dr. Burdach, of Wiebal, near Sorau, having been in the habit of employing the root of this plant in epilepsy, Professor Hufeland was induced to try its effects.

Dr. Burdach recommends the root to be gathered about the middle of October, to be dried in the shade without washing, and not to be powdered until shortly before its exhibition. It should be taken in powder, within half an hour of the expected accession of the paroxysm can be foreseen, in the dose of a coffee-spoonful (from 50 to 70 grains) in a little warm beer: the patient ought to be placed in bed, well covered, and to drink warm beer. Copious perspiration is the result, which having subsided, the patient may leave his bed.

Dr. Burdach asserts that the first dose generally procures some relief, and sometimes performs a complete cure. He advises the dose of this medicine to be repeated on alternate days.

Professor Hufeland prescribed this remedy in ten cases of epilepsy in the "Polyclinical Institution of Berlin." Of these, three were perfectly cured, three obtained relief, the paroxysms becoming less frequent, and much less severe; and four derived no advantage from its use. These experiments deserve to be repeated in this country; for, according to the observations of Hufeland and Burdach, this substance seems to possess more efficacy in the disease than *a priori* reasoning would lead us to expect from any single remedy, especially when we connect the pathology of the disorder with the means of remedying it.

We subjoin an abstract of some of the cases published by Professor Heufland and Dr. Burdach, as we conceive that the result entitles this substance to the favourable notice of practitioners. The experience of Hufeland being in its favour, is no small recommendation :—

Case 1st.—A female, aged forty-one, who had been hysterical, became subject to attacks of epilepsy. These attacks seem to have been consequent on chagrin, irregular menstruation, and sedentary life. She was received into the hospital under the care of Hufeland, and during a month's residence in the institution, she experienced six epileptic fits. As each of the paroxysms was ushered in with general uneasiness and agitation, the powdered root of the Artemisia was exhibited on the appearance of these symptoms. The first dose was taken at 11 o'clock at night, at the moment when the usual forerunners of the fit declared its accession. A very abundant perspiration supervened, which continued till morning. The patient had no sleep; she changed her linen and felt much relieved. On the following day, however, at two of the afternoon, she was suddenly seized with a paroxysm, which an hour afterwards was succeeded by a second equally violent as the former; she then fell into a profound sleep, which continued until the morning following. Seventy-two hours after the exhibition of the first dose, a second was given in warm beer. A general, very abundant, and fœtid perspiration supervened; and in the morning she had a copious discharge of yellowish urine, which did not deposit any sediment. She felt greatly relieved. She left the hospital in the following month; and at the end of two years M. Hufeland ascertained that she had since enjoyed perfect health, and had not had any attack of epilepsy.

Case 2d.—A girl, seventeen years of age, an epileptic from her fifth year, in consequence of a blow on the head, had a paroxysm daily at the same hour. One dose of the Artemisia vulgaris, which was followed by perspiration, cured the disease.

Case 3d.—A girl, eighteen years of age, epileptic from the age of two years, in whom the paroxysms had been increasing in frequency and severity since their first appearance, until she had as many as twelve attacks in the day, took the Artemisia in the manner described above. After the third dose, the paroxysms were reduced to two in the day, and these were of short duration. No further report was given of this case.

Case 4th.—A man, twenty-nine years of age, was subject to a periodical epilepsy during four years. The disease appeared after a fall into the water when he was drunk. Two doses of the Artemisia completely removed the disorder.—*Lon. Med. Repos.*

Tuberculous Affection of the Brain. By Dr. Ozanam, Physician to the Hotel-Dieu, Lyon.—A. Geoffroi, aged twenty-seven, complained ever since December, 1821, of a continual pain in the left side of his head. In the month of January following he was seized with a violent attack of epilepsy. From that period to the thirteenth of the month of November following, he had six similar attacks: at this period he was admitted into the Hotel-Dieu. He remained there sixteen days without having another attack, and went out of the hospital in tolerable health. In the month of December the pain of his head was increased, and continued so during the following year. But about the month of October 1823, he perceived a considerable tumour in the left temple: from this period he became fearful and sluggish, and experienced mental alienation. Although a moderate pressure of the tumour did not produce much pain, yet he dreaded it to be touched. On the 11th of December he was seized with a violent fit of epilepsy, at the end of which he was carried to the Hotel-Dieu.

On his admission the tumour on his temple was slightly prominent, and two inches in circumference, with œdema of the surrounding parts and of the eyelids; and it was found to pulsate synchronously with the pulse. The pulsations ceased on compression of the common carotid, but continued when pressure was made on the fascial and temporal branches. The tumour itself was soft, fluctuating, without change of the colour of the skin which covered it, and circumscribed by a hard and bony margin. It elevated the thin and aponeurotic portion of the temporal muscle. A state of continual spasmodic construction of the muscles of the neck and of the pharynx prevented deglutition, his face was Hippocratic, and his skin hot and dry. He died fifteen days after his admission into the hospital. The treatment was antiphlogstic.

Dissection.—The cranium removed with precaution, presented the membranes in a state of inflammation, and the arachnoid injected. The left parietal bone was completely eroded, the resulting perforation being ten lines in diameter. The cerebral subtance allowed numerous drops of blood to escape, when the longitudinal and transverse sections of it were made. A non-suppurated tubercle adhered to the cerebral pulp, and elevated the dura mater; it had pushed before it the portion of this membrane where it was lodged, forming a hernia with the dura mater and the external periosteum. The whole of that part of the brain corresponding to the temporal fossa was softened and disorganized; it enclosed six tubercles, of the size of a small nut, hard, schirrous, and having at their centres a yellowish gravelly concretion. All the other viscera were sound.

This singular tumour presented many of the characters of an aneurism of the temporal artery.—*Ibid.*

An account of the Native Oil of Laurel, by Dr. Hancock, *of Demerary.*—This substance, which has been very injudiciously termed *Azeyte de Sassafras*, an appellation which tends to confound it with the essential oil, yielded by the *Laurus Sassafras* of the Northern Continent of America, affords, so far as my knowledge extends, an extraordinary and solitary instance of the production of a perfectly volatile liquid, without the aid of art. Substituting for the appellation to which I have objected, the provisional name "*Native Oil of Laurel,*" I shall describe the method of procuring it, and enumerate its principal chemical and medicinal properties, so far as they have been investigated and examined.

The *Native Oil* is yielded by a tree of considerable magnitude; its wood is aromatic, compact in its texture, and of a brownish colour, and its roots abound with essential oil.

This tree, which is found in the vast forests that cover the flat and fertile regions between the Oronoko and the Parima, has from an analogy already alluded to, been supposed to belong to the natural order, *Laurineæ:* and though Humboldt and Bonpland do not seem to have been acquainted with its singular and important produce, its botanical characters may very possibly have been described in their *Plantes Equinoxiales*, under the *Genera Oeotea*, *Pereea*, or *Litsea.* This question I am, however, unable to solve, as I have never seen the parts of fructification.

The *Native Oil of Laurel* is procured by striking with an axe the proper vessel, in the internal layers of the bark, while a calabash is held to receive the fluid. So obscure, however, are the indications of these reservoirs, that the Indians (with perhaps a little of their usual exaggeration) assert, that a person unacquainted with the art may hew down a hundred trees, without collecting a drop of the precious fluid. In many of its properties, the *Native Oil* resembles the essential oil obtained by distillation and other artificial processes; it is, however, more volatile, and highly rectified, than any of them; its specific gravity hardly exceeding that of alcohol. When pure, it is colourless and transparent: its taste is warm and pungent; its odour aromatic, and closely allied to that of the oily and resinous juice of the *Coniferæ.* It is volatile, and evaporates without residuum, at the atmospheric temperature. It is inflammable, burning entirely away, and except when mixed with alcohol, gives out in its combustion a dense smoke. Neither the alkalies nor acids seem to exert any sensible action upon the *Native Oil.* Upon dropping into it sulphuric acid, the latter assumes a momentary brownish tinge, but soon regains its transparency, remaining immiscible at the bottom of the vessel. The *Oil of Laurel* dissolves camphor, caoutchouc, wax, and resins; and readily combines with the volatile and fixed oils. It is insoluble in water, soluble in alcohol, and in ether. Though the specific gravity of the oil exceeds that of ether, yet the compound formed, by combining them, in the proportion of one part of the former to two of the latter, floats upon the surface of pure ether, and may therefore be the lightest of all known liquids.

With respect to the medicinal properties of the *Native Oil*, it bears, when externally applied, the character of a powerful discutient: and appears, when exhibited internally, to be diaphoretic, diuretic, and resolvent; by many it is believed to be analeptic, alterative, anodyne; and to promote the exfoliation of carious bones.

Without listening to the extravagant reports of the Indians, who exalt it into a Panacca, we must admit that its efficacy has been demonstrated in cases of rheumatism, swellings of the joints, cold tumours, pains in the limbs, and in various disorders supposed to originate in a vitiated state of the blood (mala sangre). In all these cases it is exhibited in doses of twenty to forty drops, on sugar, twice a-day; accompanied by frequent and long-continued friction of the parts affected with the oil, while the body is kept moderately warm, and a free use of diluting drinks prescribed to the patient. The same practice is said to have been attended with the happiest effect in paralytic disorders; for this I cannot vouch, but have found it a valuable remedy in cases of nervous and rheumatic headache, sprains, and bruises. A decoction of the root has been employed as an alterative, in various chronic complaints, and with much success.

I am fully aware of the re-action that often results from over-excited and disappointed expectations, and of the discredit into which a new remedy frequently falls, in consequence of the unmerited encomiums which those who bring it into notice have injudiciously bestowed upon its virtues.

> Quidquid excessit modum,
> Pendet instabili loco.

However slight the credibility we may feel inclined to attach to the evidence of the Indians, upon which our knowledge of the medicinal properties of the *Native Oil* almost entirely reposes, the information derived from experience surely claims that attention, and justly challenges that examination, which we should not hesitate to bestow on the speculations of the mere theorist. Let inquiries be instituted, and experiments be made by those who, by situation and scientific attainments, are qualified for the task. By these investigations, it may not only be ascertained what degree of confidence ought to be reposed in the unqualified encomiums which the Indians lavish upon this anomalous production, but properties unknown to them may be discovered, and its history, which they have been accused (perhaps unjustly) of involving in obscurity, be satisfactorily elucidated. To the chemist and vegetable physiologist, in particular, the *Native Oil of Laurel*, elaborated by the unassisted hand of Nature, in a state of purity, which the operose processes of art may equal, but cannot surpass, presents an interesting subject of inquiry, and a wide field of speculation.—*Brande's Quar. Journal.*

M. Bayle's Case of Softening of the Spinal Marrow.—A woman, aged 32, a sempstress, had at first lancinating pains in the chest and abdomen, and afterwards in the pelvis and lower extremities, inability of walking, and convulsive affections of the legs, with shooting pains. At the base of the tenth dorsal vertebra was a tumour, in form like the brain, and posterior to the spinal marrow. Some time before death the legs were bent back, with the heels pressed against the nates. After long suffering she died.

Dissection.—"Lungs excavated, and filled with tubercles. Left lung adhered throughout to the pleura costalis of the side attacked with the inflammation. The articulations above-mentioned, contained a purulent liquid:

their cartilages were irregular, and appeared destroyed in certain points. The brain was sound; the cerebellum in good state, excepting that on each lobe, posteriorly, there was a small band from an inch and a half to two inches long, of a white, firm, hard substance, composed of decussated fibres, and which adhered very intimately to each other.

"The spinal marrow was healthy as far as the level of the tenth dorsal vertebra, where there was found on its posterior part a tumour contained between two small folds of the arachnoid. This oblong tumour, about two inches in length, and placed lengthways in the spinal canal, was slightly furrowed on its surface, of rather a firm consistence, a reddish white colour, intersected by small vessels which penetrated into its interior. When cut, it appeared composed of a homogeneous matter, somewhat resembling the substance of the brain, but more firm, of a light rose colour, and presenting when torn, small but very distinct granulations. There were numerous minute vessels going in every direction; the tumour did not adhere in any point to the spinal marrow, which in every part corresponding to it, was softened to the consistence of thick paste, to the extent of about two inches, and which towards the most bulky part of the tumour, appeared cut transversely, so that the two portions separated by a small space, representing two cones resting against each other by their tops. After a very attentive examination of the softened portion of the marrow, no single fibre could be discovered which had not undergone this alteration. The limbs were wasted; the nerves did not appear diminished in size."—*Quar. Journ.*

Dr. Quadri's Case of Diplopia.—The following singular case of Double Vision, cured by operation, is given in the Medical Observations, by Dr. Quadri, of Naples:—

"After having used all the most energetic remedies in vain, he conceived that the disease was owing to some affection of the optic nerves, and ordered the patient to take Richter's pills. The patient, however, became worse; and, on examining the eye, the iris appeared sound, the movements of the pupil regular and rapid; there was no spectra, or small objects, complained of as floating before the eyes, so common in cases where the nerves are affected. Dr. Quadri conceived the disease to arise from pressure, made by a superabundant quantity of cellular substance at the inner angle of the right caruncle, which threw the eye out of the centre of the orbit; and he was confirmed in that opinion upon finding that the diplopia disappeared when the eye was carried inwards or upwards. The author, therefore, laid open the right caruncle, and by means of a small pair of forceps, took away three small pieces of cellular substance; the wound healed by the first intention, and the patient was relieved. This encouraged M. Quadri to repeat the operation some few days after, in the same manner, and to the same extent. After this second operation, the wound was closed with a point of suture and adhesive plaster. The inflammation after this operation was more considerable, but was relieved by leeches, and the wound healed in a few days. The disease was quite cured. M. Quadri conceives that the inflammation which took place after the last operation, increased the density of the cellular substance so as to destroy the tendency to grow, which it had before evinced."—*Anderson's Quart. Jour.*

On Fumigation. By M. Faraday, F. R. S.—I was called on some months since to direct and superintend the fumigation of the general Penetentiary at Milbank; in doing which some precautions and arrangements suggested themselves, which I have thought might be usefully made known for the information of those who may have occasion to apply disinfecting agents to the purification of buildings, either large or small.

On examining a building to be fumigated, it is necessary to estimate the surface exposed to the infectious vapours, as well as the capacity of the structure. When the air of a place is impregnated with infectious matter, the surface of the walls, &c. will absorb more or less of it in proportion as it is more or less extensive, as it approaches nearer to or is farther from the source of infection, and also in some degree according to its nature.

The general arrangement of the Penitentiary was favourable to its complete and perfect fumigation; for, though of great magnitude, yet its division into smaller parts as galleries, towers, staircases, &c., most of which were glazed, and all of which could be closed by doors so as to separate them from each other, rendered the successive application of the means employed easy and convenient.

After deciding upon fumigation by chlorine, the next object was to ascertain the most favourable mode of applying it; and I was desirous for many reasons of obtaining a gradual and successive development of the disinfecting agent, rather than a sudden and short one. The latter mode, though it would have filled the building at once, and probably very effectually, yet would seriously have incommoded the operators, and would also soon have disappeared in consequence of absorption by the limed walls, and from dissipation through apertures that would inevitably remain unclosed in different parts of the building: whilst the former mode, by continually supplying the disinfecting agent to the atmosphere of the place for a length of time, would enable it better to act on the bedding, clothing, and other articles left in the cells, and allow it also more perfectly to penetrate to every part of the building itself.

The materials used were those generally employed, namely, common salt, oxide of manganese in powder, and oil of vitriol. Upon making experiments with these substances as furnished by the dealer for the fumigation, I found that a mixture of one part by weight of common salt and one part of the oxide of manganese, when acted upon by two parts of oil of vitriol previously mixed with one part (by weight) of water, and left till cold, produced the best results. Such a mixture made at temperatures of 60° Fahr. liberated no muriatic acid; but in a few minutes began to evolve chlorine, and continued to do so for four days. When examined on the fifth day, and urged by heat, so as to cause the liberation of all the chlorine that could be afforded by it, only a small proportion was obtained. Such a mixture may therefore be considered as having liberated its chlorine gradually but perfectly, without the application of any extraneous heat; and is therefore very proper for extensive fumigation.

The vessels in which the mixture is to be made should be flat, and such as, being economical, are least acted on by the chlorine or acid. Common red pans were used in the Penitentiary; for many being required at once, better earthen ware would have been too expensive. They held each about four quarts.

Preparatory to the fumigation a quantity of the salt was turned out, the lumps broken down by a mallet until the whole was in powder, and then an equal weight of the oxide of manganese added, and the whole well mixed. The acid and water were mixed in a wooden tub, the water being put in first, then about half the acid added, stirring at the same time. When the heat produced had been dissipated, which happened in a few hours, the rest of the acid was added, stirring as before, and the whole left till cold. The men used measures in mixing the acid and water, and were told to take rather less of water than of acid, 9 measures to 10 being nearly the quantities required. Any slight departure from these proportions would be of no consequence. The pans were then charged, each with about 3½lb. of the mixed salt and manganese, and distributed at proper intervals along the galleries, &c., care having been taken previously to close the doors and windows, and to stop with mats or rugs all apertures to which access could be had, especially key-holes, through which there was any draft. The diluted acid being cold, was then carried in cans or jugs, and measured out in the proportion of 4½ lb. to each pan, the mixture being well stirred with a stick, and left to itself. This was done without any inconvenience to the operator, except when the acid was applied too warm: there was abundant time to go from pan to pan, and to close the various galleries in succession. On entering a gallery a few minutes after it had been thus treated, the general diffusion of the chlorine in the atmosphere was sufficiently evident. In half an hour it was often almost impossible to enter, and frequently on looking along the gallery (150 feet in length), the yellow tint of the atmosphere could easily be perceived. Up to the fifth day the odour of the chlorine could generally be observed in the building. After the sixth the pans were removed, though sometimes with difficulty, to be emptied and used elsewhere; and the place fumigated, had its windows and doors thrown open.

It was estimated that the charge of each pan would yield about 1 lb. of chlorine, or 5½ cubical feet. The whole quantity of materials used was 700 lb. of common salt, 700 lb. oxide of manganese, and 1400 lb. of oil of vitriol. The space requiring fumigation amounted to nearly 2,000,000 cubical feet, and the surface of the walls, floors, ceilings, &c., exclusive of furniture, bedding, &c., was about 1,200,000 square feet. This surface was principally stone and brick, most of which had been lime-washed. The space was divided into 72 galleries of 150 feet each in length, and towers, passages, chapel, &c., equivalent to about 13 galleries more. The number of cells, rooms, &c. was nearly 1200.

It was desirable for many reasons that the Penitentiary should be fumigated in the most unexceptionable manner, and the means employed were therefore applied to an extent probably far beyond that requisite to the destruction of any miasmata that might be within it. The proportion of chlorine evolved to the size and surface of the building, may be considered therefore as sufficient for a case of the most excessive kind; and, though the limits are guessed at rather than judged of by any well-founded rule, yet I should consider from one-half to one-fourth of the chlorine as quite sufficient for any of the usual cases where fumigation is required.—*Brande's Quar. Journal.*

Case in which Asphyxia was produced by the development of a Tumour in the Larynx. By G. Ferrus, Physician to Salpêtrière.

A female, aged forty, was admitted into the *Salpêtrière*, in June 1820, after an attempt to commit suicide: but during her stay in the hospital, she evinced no sign of mental alienation. She had been greatly addicted to venereal excesses, and to the abuse of spiritous liquors. Her constitution was robust. Upon her entrance into the hospital, it was remarked that the tone of her voice was feeble and indistinct. This symptom continued to increase for eighteen months, until respiration became extremely difficult, her face injected, and the eyes prominent. About seventeen months from the period of her admission, she began to complain of pain towards the superior opening of the larynx. Respiration had then become very painful and difficult, and cerebral congestion was eminent. General and local blood-letting were employed, but without benefit. Her symptoms, about this time, presented accessions of severity, and assumed the character of the most violent paroxysms of asthma. The pain and difficulty of respiration felt at the larynx, and an obstacle felt there to the entrance of air into the lungs, pointed it out as the seat of the disease; yet no mechanical obstruction from the pressure of tumours, or from other causes, could be detected; whilst an abundant mucous expectoration caused an affection of the bronchiæ, and even of the lungs, to be suspected to form a part, if not the whole of the ailment. It was, however, decided, from the symptoms referrible to the larynx, that the disease most nearly resembled œdema of the glottis. The intensity of the symptoms increased until asphyxia took place. In this state tracheotomy was performed; but the attempts made to resuscitate the patient did not succeed.

Dissection twenty-four hours after death.—The cavity of the cranium presented nothing remarkable beyond a sanguineous injection of the brain, and the cerebellum of an unusually large size. The vessels of this organ were also considerably injected.

The abdominal viscera were sound. The lungs were healthy, excepting a slight adhesion on the right side, at a part were a small mass of tubercles was developed. The trachea and larynx were removed in order to be examined with accuracy. Having opened the posterior parietes of the trachea along its whole extent, the first object which attracted attention was the occlusion of the glottis by a tumour the size of a large almond. This tumour adhered by a somewhat large base to two fibro-membranous folds, which form the left laryngeal ventricle, and at the angle formed by the thyroid cartilage. Its surface was irregular, tuberculated, and possessing the same consistence as fungous tumours. Its colour was similar to the mucous membrane covering the rest of the larynx. Another tumour of the same nature, but of a very small size, was situated on the opposite side of the larynx: it was inserted a little higher up than the large tumour.

The appearance of these tumours led to the suspicion that a syphilitic affection existed in this individual, an opinion which was strengthened by her character, and which an examination of the genital organs confirmed.

In this case, had tracheotomy been earlier performed, the existence of this tumour might have been ascertained, and its extirpation might have been even accomplished.—*Lon. Med. Repos.*

NOTICES.

University of the State of New-York.—The usual courses of Lectures in the two Colleges of Physicians and Surgeons attached to the University of the State, were commenced on the first Monday of November last. In the New-York College, the number of Students is about two hundred. In the College at Fairfield, the number is one hundred and twenty. Situated as this latter Institution is, in the interior of our State, and deprived, as it necessarily is, of many of the artificial advantages connected with a large city, we are both surprised and gratified to learn its present flourishing condition. The great increase of Students which it has received since the last year, may be looked upon as a pretty decisive expression of public opinion in its favour. We sincerely hope that its learned and enterprising Professors may persevere in the honourable course which they are at present pursuing. If they do, they may repose with certainty in the conviction that they must triumph over open as well as secret hostility.

To Readers and Correspondents.—Our next Number will contain communications from Drs. *S. W. Moore*, *L. C. Beck*, *F. Ludlow*, *P. S. Townsend*, *F. G. King*, &c. &c.; together with Reviews of Dr. *Smith's* work on the Etiology and Philosophy of Epidemics, and Dr. *Godman's* Anatomical Investigations.

No. XIII. will be published on the last day of March.

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